

DRAFT
ENVIRONMENTAL IMPACT STATEMENT

FIVE TOWNS COLLEGE
LIVING/LEARNING CENTER

Special Use Permit Application #17318

305 North Service Road
Dix Hills, Town of Huntington
Suffolk County, New York

Volume 1 of 2
Main Text, Appendices & Plans
(see Volume 2 of 2 for Traffic Impact Study)

NP&V Project No. 91170

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NELSON, POPE & VOORHIS, LLC
ENVIRONMENTAL • PLANNING • CONSULTING



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Draft
Environmental Impact Statement

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Special Use Permit Application #17318

305 North Service Road, Dix Hills
Town of Huntington, New York

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TABLE OF CONTENTS
Volume 1 of 2

	<u>Page</u>
COVER SHEET	i
TABLE OF CONTENTS	ii
SUMMARY	S-1
Description of the Proposed Action	S-1
Potential Significant Impacts	S-5
Mitigation Measures	S-11
Alternatives	S-13
Matters to be Decided	S-13
1.0 DESCRIPTION OF THE PROPOSED ACTION	1-1
1.1 Project Purpose, Need and Benefits	1-2
1.1.1 Objectives of the Project Sponsor	1-2
1.1.2 Benefits of the Project	1-6
1.1.3 Project Background and Litigation History	1-7
1.1.4 Community Opposition	1-10
1.2 Location	1-13
1.2.1 Geographic Boundaries of Site	1-13
1.2.2 Site Access	1-13
1.2.3 Site Zoning	1-13
1.3 Project Design and Layout	1-17
1.3.1 Total Site Area	1-17
1.3.2 Structures	1-17
1.3.3 Impervious Surfaces	1-19
1.3.3 Clearing	1-19
1.3.5 Open Space	1-20
1.3.6 Undisturbed Area	1-20
1.3.7 Visual Character	1-20
1.3.4 Comparison to Approved Plan	1-20
1.3.9 Parking	1-21
1.3.10 Conformance to Standards and Conditions to Merit Special Use Permit	1-21
1.4 Construction Phase and Site Operations	1-24
1.4.1 Construction Phase	1-24
1.4.2 Site Operations	1-25
1.5 Permits and Approvals Required	1-26
2.0 EXISTING CONDITIONS, POTENTIAL SIGNIFICANT IMPACTS AND MITIGATION MEASURES	2-1
2.1 Geological Resources	2-1



2.1.1	Topography of Site and Vicinity	2-1
2.1.2	Erosion Control	2-2
2.2	Transportation	2-6
2.2.1	Traffic Services	2-6
2.2.2	Traffic Levels	2-8
2.2.3	Public Transportation	2-13
2.3	Land Use and Zoning	2-16
2.3.1	Land Use of Site and Vicinity	2-16
2.3.2	Zoning of Site and Vicinity	2-18
2.4	Open Space	2-20
2.5	Groundwater	2-21
2.6	Community Character	2-29
2.6.1	Cultural Resources	2-29
2.6.2	Air Quality and Noise Conditions	2-31
2.7	Community Resources	2-32
2.7.1	Fiscal Conditions	2-32
2.7.2	Safety and Security	2-33
 3.0	 POTENTIAL FUTURE EXPANSION	 3-1
3.1	Expansion Plans	3-1
3.2	Changes in Curriculum as Related to Dormitory Population Changes	3-1
3.3	Changes in Curriculum as Related to Non-Dormitory Population Changes	3-1
3.4	Potential for Future Library Construction	3-1
3.5	Changes in Non-Dormitory Population with Respect to Board of Health Requirements for Dormitories	3-3
 4.0	 ALTERNATIVES	 4-1
4.1	Alternative 1: No Action	4-1
4.2	Alternative 2: Additional Access on LIE North Service Road	4-3
4.3	Alternative 3: Reduced Scale Project	4-7

In Plan folder at rear:

Overall Site Plan (rev. 6/25/01)

Alignment Plan (rev. 2/8/02)

Grading and Drainage Plan (rev. 2/8/02)

Proposed Expressway Service Road Entrance Plan (rev. 6/11/02)



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APPENDICES:

A SEQRA-RELATED DOCUMENTS

- A-1 Environmental Assessment Form (EAF) Parts 1, 2 and 3, Town Department of Planning and Environment, June 22, 1999
- A-2 House Beautiful Letter, Laurence S. Jurman, Esq., July 6, 1999
- A-3 Intra-office Memorandum, Town Department of Planning and Environment, July 9, 1999
- A-4 Town Planning Board Resolution and Negative Declaration, July 14, 1999
- A-5 Resolution Approving Site Plan Application, Town Planning Board, May 24, 2000
- A-6 Hearing Transcript, ZBA, June 6, 2002
- A-7 EAF Part 3, Resolution and Positive Declaration, ZBA, 6/12/2002
- A-8 Final DEIS Scope, August 20, 2002

B PHOTOGRAPHS OF SITE AND VICINITY

C SONIR COMPUTER MODEL

- C-1 Model User's Guide
- C-2 Existing Conditions
- C-3 Proposed Project
- C-4 Alternatives

D CULTURAL RESOURCES ANALYSES, Archaeological Services, Inc.

- D-1 Phase IA Study, 12-22-99
- D-2 Phase IB Study, 12-22-99
- D-3 Addendum to Phase IB Study, undated

Figures

1-1	Location Map	1-14
1-2	Aerial Photograph of Site and Vicinity	1-15
1-3	Aerial Photograph of Site	1-16
2-1	Soil Map	2-4
2-2	Land Use Map	2-17
2-3	Zoning Map	2-19
2-4	Water Table Contour Map	2-22

Tables

1-1	Site and Project Characteristics	1-18
1-4	Permits and Approvals Required	1-27
2-1	Soil Limitations	2-3
2-2	Trip Generation - Existing Conditions	2-8
2-3	Level of Service Summary - Existing Conditions	



	a.	Signalized Intersections	2-9
	b.	Unsignalized Intersections	2-10
2-4		Trip Generation - Existing and Proposed Conditions	2-12
2-5		Level of Service Summary - No Build & Build Conditions	
	a.	Signalized Intersections	2-14
	b.	Unsignalized Intersections	2-15
2-6		Land Use Pattern	2-16
2-7		Zoning Requirements Conformance - R-40 Zone	2-20
2-8		Stormwater Impacts from Land Use - NURP Study	2-25
3-1		Wastewater System Usages	3-3
4-1		Comparison of Alternatives	4-2
4-2		Level of Service Summary - Alternative 2	
	a.	Signalized Intersections	4-5
	b.	Unsignalized Intersections	4-6

Volume 2 of 2
Traffic Impact Study

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SUMMARY



SUMMARY

This document is a Draft Environmental Impact Statement (DEIS) for the Five Towns College Special Use Permit application. Five Towns College (FTC) is an institution of higher education located on the east side of Burrs Lane, north of the LIE North Service Road and south of Half Hollow Road, in Dix Hills, Town of Huntington. There are a number of differing land uses which are complementary to that of FTC represented in the vicinity, though the dominant land use is residential in nature. The proposed project will increase the amount of building area on the campus, by adding four dormitory buildings (designated the "Living/Learning Center"), which will enable the residency of 208 individuals. At present, the first two of these dormitories have been completed and are currently occupied, while the remaining two are in different stages of construction. As discussed in detail below, though the Town Planning Board has reviewed the project and had issued a Negative Declaration and a Site Plan approval (construction is nearly complete), the project now requires a Special Permit. The Town Zoning Board of Appeals (ZBA) is empowered by Town Code Section 198-68(A)(12) to issue the special use permit.

Under SEQRA, the "lead agency" is the government body that has the primary jurisdiction for the application being considered. The action under consideration is for a special permit, which is under the purview of the Huntington ZBA. Although roadway improvement, wastewater treatment system and water supply permits and approvals are required (and have been issued) from other government jurisdictions, the need for a special permit has necessitated the current application before the ZBA. Accordingly, this DEIS will be submitted to the Huntington ZBA to address possible significant environmental impacts of the proposed project.

The draft scope for this DEIS was prepared by the project sponsor and submitted consistent with SEQRA procedures. Based upon comments received from the public and agencies, the lead agency revised the draft scope, and issued its Final Scope on August 15, 2002. This document has been prepared consistent with this Final Scope.

Description of the Proposed Action

Project Purpose, Need and Objectives

The project sponsor seeks to provide excellence in education, accessibility of college programs and appropriate convenience to the student body. The proposed project achieves these objectives.

Benefits of the Project

The public in general and the adjacent community in particular will benefit in a number of ways from the proposed action. These include the incremental increase in educational opportunities,



reduction in traffic-related impacts due to the reduction in traffic on area roadways (due to on-site housing) and increased capacity of on-site parking, employment opportunities, and ancillary services and cultural opportunities provided by a performing arts-oriented college.

It should be noted that under applicable sanitary code, FTC is permitted to generate 20,160 gallons of sanitary wastewater per day (gpd). If FTC were to remain as presently configured with 104 resident and 788 commuter students, it would be permitted, as a matter of right, to add 1,582 new commuter students (each generating 5 gpd of sanitary wastewater), raising its total commuter student population to 2,370. Under the current plan, FTC has significantly reduced this impact. It must be emphasized that, inasmuch as resident students generate significantly more sanitary wastewater than commuter students, FTC's decision to institute on-campus housing means that the maximum allowable capacity of the wastewater system determines how many and what type of students can be accommodated at the College. Thus, the proposed project represents a significant reduction in potential impacts to the character of the community and its roadways, by significantly reducing the potential increase in the number of commuter students.

The public will benefit from the incremental increase in construction employment, construction wages and increased building material sales generated during the construction period, as well as from the incremental increase in college-related employment opportunities. College employment figures demonstrate that one job is created on-campus for every 11 students. In addition, the college utilizes a "good neighbor" policy, whereby it gives preference to prospective employees who reside within the Town of Huntington, and whereby it purchases goods and services locally whenever possible.

Project Design and Layout

Total Site Area

The Overall Site Plan depicts the location of the proposed project in the context of the total FTC campus; this construction area includes the northwestern corner of the property as well as the parking area expansion to the south, adjacent to the existing gravel parking area. It is bounded on the south by the existing service/delivery entrance roadway, on the east by the existing emergency access roadway off Half Hollow Road (now in use as the only construction access), and on the north and west by Half Hollow Road and Burrs Lane, respectively. More specifically, the Alignment Plan shows the arrangement of the four dormitory structures and the locations of the sidewalks, retaining walls, sanitary and drainage systems, and landscaping within this development area.

The buildings have been grouped to the northwest of the existing structure, in a formerly sloped area that was previously wooded. Retaining walls have been designed, reviewed, approved and constructed downslope of this grouping of buildings to the north and west, as well as between the buildings. The walls have enabled the construction of these buildings and associated services and amenities on proper slopes.



The existing east-west site access roadway to the main classroom building will remain in place, off which the project's sidewalk will be accessed. This sidewalk (to be bounded by 5-foot wide strips of grass pavers, for emergency vehicle access to the structures) will loop from the main entrance roadway to the emergency access roadway.

Building Layout

Each of the 2-story buildings will conform to all applicable Town Code requirements; no variances are needed. The four new dormitory structures are two stories and less than 35 feet in height, with 16 or 19 residential units on each floor, with bathrooms and meeting rooms. The cellars contain open spaces, storage rooms, security offices, vestibules and maintenance closets. No student residences will be located in the cellars. One staff apartment is planned for Building 3 and one for Building 4; the Dean and Associate Dean of Residential Life are required to live on-campus as a condition of employment. In consideration of the grading required to provide proper slopes, the cellars will be of the "walk out" variety, enabling access directly from the cellar level to the exterior, where grading allows.

The Suffolk County Sanitary Code establishes that each resident will generate 75 gpd of wastewater, while commuter students will generate 5 gpd. Thus, there will be an overall increase in campus wastewater generation as set forth herein, which will require installation of sanitary facilities capable of retaining and treating this volume of wastewater. New septic systems have already been approved and installed for all four buildings.

It is anticipated that lighting fixtures will be provided along the exterior of the development area (directed downward and inwards), and on the exterior walls at entrances and emergency exits, for safety and security purposes. Use of shrouds and downcast fixtures will minimize the potential for fugitive lighting to impact the adjacent residences.

Building Elevations

The completed buildings will be less than the 35-foot maximum height allowed in the R-40 zone; this dimension was found to be in conformance with Town Code Chapter 198-2(A), and was approved by the Town of Huntington Building Department.

In general, the buildings incorporate the general architectural theme/character of the existing institutional use while complementing the area. Architecture utilizes materials having textures and colors generally in conformance with those of the area.

Drainage System

The project will utilize a series of new leaching pools (distributed into 6 areas) to retain and recharge all stormwater generated by the proposed project. The entire system will have a capacity of 20,180 cubic feet (CF) of water, which is 5.6% in excess of the anticipated runoff volume of 19,116 CF (based upon the Town-required standard of a 2-inch rainfall).



Impervious Surfaces

Impervious surface areas have been increased on-site by approximately 33%; this is due primarily from the paving of 1.34 acres of gravel parking area, and only secondarily from the new sidewalks.

Clearing

An estimated 3.26 acres of natural vegetation (primarily woods) were removed for the proposed project. This represents 23% of this type of surface on the campus; in comparison to the entire property, only 9.4% of the campus was cleared for the project.

Open Space

Town Open Space Index parcel SE-22 is located approximately 1,000 feet to the southeast. That 17.6-acre site has been developed with a single-family subdivision and a NYS recharge basin, and therefore does not retain the natural and ecological characteristics for which the site was designated in the first place. As a result, the proposed project will have no impact on this parcel.

Undisturbed Area

As referenced above, 3.26 acres of natural wooded vegetation were cleared for the project, leaving 10.75 acres (31.1% of the overall FTC property) in this type of surface. Because the campus has been developed in the central portion of the property, leaving the perimeters to be retained in a natural state for aesthetic and noise buffering, these perimeter areas will continue to be naturally-vegetated. The clearing for the proposed project represents an incremental reduction of open space on the site.

Visual Character

The buildings have been designed to blend with and conform to the overall architectural theme/character of the area, while not exceeding the bulk or "presence" of the surroundings. That is, the project is not too massive or visually unappealing for the site. In addition, when the construction process is completed, the proposed landscaping program will further soften potential visual impacts, by increasing the depth and density of buffering vegetation, and by offering attractive fields of view, rather than the unattractive, jarring visual effect of bare slopes and an uncompleted construction area.

Parking

Parking on the FTC campus is available only in one parking lot, located south of the classroom building. This lot is accessed through the two driveways off Burrs Lane. Prior to the onset of construction, this lot was divided into paved and unpaved sections. Then, additional gravel overflow parking was installed abutting the southerly edge of the lot, resulting in a total parking capacity of 537 spaces (179 paved and 358 unpaved). Subsequently, the original gravel section was paved, resulting in the current 374 paved and 163 unpaved spaces; total parking capacity on-site was maintained at 537 cars. The southerly portion of the lot (the new gravel surface) will also be paved, so that the 537-space capacity of the lot will be maintained. As two of the dormitories are incomplete and unoccupied, the minimum number of parking spaces required by the Town is 260; when construction is complete and these two buildings are occupied, the



parking requirement will be increased to 330 spaces. The site currently contains sufficient spaces to satisfy both parking requirements.

Future Plans

As addressed above, FTC has at present no plans for new buildings on its campus, although it has considered, for master planning purposes only, the possibility of a free-standing library at some point in the future. Such consideration was given only with respect to master site planning for the Living/Learning Center. There are no current plans to undertake a library improvement project.

Other Potential Uses of Dormitories

In regard to the possibility of other uses for the dormitory units, FTC will only use the Living/Learning Center for educational programs connected with its mission, goals and objectives, as authorized by the Absolute Charter issued by the New York State Board of Regents. By way of example, this would include the obvious - housing for matriculated students at the College, and educational conferences and retreats offered at the College in furtherance of its objectives (such as the three-day Leadership Huntington retreat held in June, 2002). Examples of events that would not be offered by FTC include summer camp sleep-away programs for children and innkeeper or boardinghouse operations for the general public.

Deliveries and Services to Site

Based on information provided by FTC, approximately five (5) truck deliveries are received at the College each weekday during regular business hours. Most of these deliveries occur in the morning. They usually consist of UPS, Federal Express, US Postal Service, food purveyors, and one miscellaneous truck. Miscellaneous trucks consist of electricians, plumbers, landscapers, and other service providers. In addition, garbage pickup is scheduled twice per week with one truck. FTC has not experienced any increase in the frequency of deliveries with the opening of the first two dormitories.

Trucks and other vehicles are not permitted in the Living/Learning Center at all, and FTC does not accept deliveries after regular business hours or on weekends.

Significant Impacts

Geological Resources

A Grading and Drainage Plan has been prepared to establish the grading limits and slopes for roads, and to examine the basic grading of building sites. Since all grading of the site has been completed to provide adequate surface areas for the nearly completed buildings no additional alterations to the surface contour of the property are anticipated. The Grading and Drainage Plan effectively provided the design parameters for proper site construction and stabilization, as evidenced by the nearly completed project.



All three of the soils on the property pose slight to severe limitations for development due to either slopes or stability. In addition, these soils also exhibit slight to severe hazards of erosion. However, none of the limiting factors of on-site soils presented above are anticipated to limit or hinder construction activities proposed for the site due to the mitigation measures to be discussed below. These soil characteristics generally do not influence contractor's ability to perform grading, excavation or building activities, and construction techniques typically involve conforming to properly-designed grading plans with appropriate use of retaining walls and slope stabilization. As noted above, many of the areas occupied by these soils are presently used for homesites within Suffolk County and have not hindered their development for this use. In addition, construction activities will be conducted in accordance with Town ordinances as they apply to site grading and excavations. Therefore, no impacts to soils related to construction are anticipated.

Transportation

Based on the capacity analyses prepared for this project, no significant impacts to the intersections studied are anticipated as a result of the proposed project. As the site will provide a number of parking spaces well in excess of the Town-required minimum number of spaces, no impacts from parking are anticipated.

RMS conducted a detailed investigation of the potential traffic impacts of the existing/proposed dormitories on the surrounding street system. The Traffic Impact Study (TIS) reviewed existing roadway and traffic conditions in the area and estimated the volume and pattern of traffic generated by the proposed project. The potential effect of additional traffic on the surrounding roadway network was also analyzed and evaluated.

A review of the TIS results indicates that traffic generated by the proposal will have an imperceptible impact upon the signalized study intersections contained within the study area under the proposed project. Upon the introduction of site-generated traffic, there is little or no impact upon the signalized intersections.

Further review indicates that traffic generated by the proposal will have an imperceptible impact upon the unsignalized study intersection and site driveways under the proposed project. Similar to the signalized intersection, the site generated traffic has practically no effect upon the operation of the study intersections or site driveways.

Therefore, by the granting of the approval to construct the proposed residential halls and the legalization of the current residential halls, as required from the Town of Huntington, will not create any severe adverse traffic conditions or hazard in the vicinity or the site.

Based on the above discussion regarding use of public bus route 23 to the campus, it is not anticipated that the proposed project will significantly increase or decrease use of this form of transit. Implementation of the proposed Rapid Commute Vehicle stops and Passenger Transfer



Stations on the LIE in the vicinity may tend to increase use of the bus route between these locations and FTC.

Land Use and Zoning

As the project site is already in use as a college campus, and the project represents an incremental increase in this use (that is, there will be no change in the use of the site, only in the level of intensity of that use), there will be no change in the level of conformity of this use to the predominant residential use pattern (with interspersed institutional uses) in the vicinity. More specifically, it is noted that three institutional uses are already present in the vicinity, which match that of the proposed project. The proposed expansion of the FTC campus will continue the compatibility of this use with that of the surrounding community, in that this incremental increase, coupled with the absence of any change in the land use of the subject site or the pattern in the vicinity, does not present any factor which could lead to a change in the existing compatibility of these uses. In addition, institutional uses, and specifically school uses, are allowable within residential zoning districts.

The distance between the new buildings and the nearest residence (opposite the northern portion of the project site, at the northwestern corner of FTC) is approximately 250 feet. It should be noted that there are only 5 residences within approximately 400 feet of the project area. This minimizes the potential for adverse impacts to these potential receptors. In addition, these setbacks are occupied by vegetation on the FTC property, as well as by Half Hollow Road and Burrs Lane, which contribute to the level of land use impact.

As there are no commercial sites in the immediate vicinity, impacts to or from such a land use will not occur either from the proposed project or to these uses. It is not anticipated that the incremental increase in the intensity of FTC operations will materially increase the potential for commercial uses to locate into the area, particularly as appropriate zoning is not in place for such a use, and the residential nature of the area (in combination with the relatively low level of traffic in the roads in the area) would not be attractive to potential tenants.

As the proposed dormitory construction project will not change the existing zoning of the site, and represents implementation of a Conditional Use for the R-40 zone, the proposed project will not impact the zoning pattern of the area. In this sense, no impact to zoning is anticipated.

The proposed project will conform to all of the applicable requirements of the R-40 zone in regard to bulk requirements, setbacks, etc. As a result, no impacts to adherence to the Town Zoning Code are anticipated.



Open Space

Implementation of the proposed project would not result in a significant level of impact on Open Space Index parcel SE-22 since that site is developed, and its ecological value has already been seriously compromised. In addition, it is anticipated that the ecological value of the natural vegetation retained on-site (represented by the area in the northwestern corner of the property) for off-site open spaces is minimal, due to the proximity of campus activities, traffic on Half Hollow Road, and the steep slopes in this area.

Groundwater

Identical to the existing condition, the only discharges to groundwater related to the proposed use of the site will consist of sanitary effluent and storm water recharge. Completion of the project will involve incrementally increased water use for the facility, which will be approximately equal to the sanitary effluent discharged.

Article 6 of the Suffolk County Sanitary Code allows up to 600 gpd/acre for sanitary flow in Groundwater Management Zone I, when using a conventional on-site wastewater system. For wastewater flows in excess of this level, sewage treatment is required. Therefore, as the proposed project includes a conventional septic tank/leaching pool system, development on the project site is anticipated to generate up to 20,160 gpd of sanitary wastewater. The proposed project will be served by a septic tank/leaching pool system and will be within the prescribed allowable flow. Suffolk County Department of Health Services has established density limitations and design and construction standards for best management practices to protect groundwater resources of Suffolk County.

As this wastewater system will be designed, installed and constructed in conformance with SCDHS requirements, no impacts to groundwater resources are anticipated from wastewater discharge. There is adequate depth to groundwater (102-139 feet) to allow for the proper installation and functioning of sanitary systems. Additional consideration of water quality and recharge is provided below.

Under the completed development the project site will recharge a total of 31.53 MGY resulting in an increase of 2.77 MGY. This increase in recharge is the result of an increase in sanitary discharge. This increase is not expected to cause a significant adverse impact since the depth to groundwater beneath the site ranges from 86 to 135 feet below ground surface (bgs) and will not result in groundwater mounding or flooding-related concerns.

Groundwater impacts which may occur during construction activities could potentially result from building materials and equipment stored on-site. Building materials are anticipated to be inert and therefore are not expected to have an adverse impact on groundwater quality at the site. Equipment stored on-site will be properly maintained and will be operated by reputable contractors over a portion of the overall construction period. Construction activities will only



occur over a 9 to 12 month time frame and as a result no significant or long-term construction impacts to groundwater quality are anticipated.

The operation at the proposed facility will not mix, package or generate any toxic/hazardous industrial chemicals or solvents. No discharge permit is needed for other than sanitary effluent. Likewise, no Article 12 permit is needed from SCDHS for drum or tank storage.

A total of 26.33 inches of stormwater are anticipated to be recharged annually on the site, which represents 76.2% of all recharge water generated on the property. However, based upon information presented in the NURP Study, this volume is not anticipated to contain significant concentrations of pollutants. The project will use recommended recharge techniques involving subsurface leaching pools. The NURP Study found that any organic chemicals that may be present in storm water generally volatilize on surfaces and inorganic chemicals and bacteriological indicators are removed as recharge infiltrates through soil. As noted, the depth to groundwater ranges from 86 to 135 feet providing a substantial unsaturated zone for leaching and attenuation. Therefore, the proposed project is in conformance with the applicable recommendations of the NURP Study in regard to the proposed stormwater recharge system.

The SONIR computer model results for the proposed project indicate that a total of 31.53 MG/yr of water will be recharged on the site. Analysis of the computer model results indicate that 76.2% of total site recharge under proposed conditions would result from precipitation, with 0.4% resulting from irrigation and the remaining 23.3% resulting from sanitary discharges. This anticipated recharge volume represents 34.56 inches of water distributed annually over the 33.60-acre site.

The concentration of total nitrogen in this recharge is anticipated to be increased by the proposed project, due primarily to the presence of nitrogen in wastewater. Specifically, overall nitrogen concentration will be increased to 8.51 mg/l. This is less than the 10-mg/l nitrogen standard for drinking water. This is based on the assumption that only a portion of landscaped areas will be fertilized since a majority of the site containing landscape vegetation consists of ball fields. Specifically, wastewater will account for 96.1% of nitrogen in the recharge on-site. In addition, other recharge sources which contribute to nitrogen concentrations include: existing water supply nitrogen which will account for 2.7%, stormwater which will account for 0.1%, fertilization which will account for 1.1% and irrigation which will account for a negligible amount.

The project site will utilize public water, to be supplied by the Dix Hills Water District through a distribution network in the area surrounding the site. The potable water requirement of the project, 20,150 gpd, is not anticipated to impact the ability of the Dix Hills Water District to serve the public in the vicinity.

Community Character

Cultural Resources

As the CRA's undertaken for the proposed project do not indicate the presence of cultural resources on-site or in proximity to the site, no impacts to such resources are anticipated.

Air Quality and Noise Conditions

The proposed project is an incremental increase in the existing level of activity of the site, and does not represent a significant change in the existing use of the site; therefore, no significant changes in the existing level or potential for air and/or noise impacts are anticipated. There will be no significant increases in the amounts of air pollution arising from equipment operations following completion of the construction phase, as no activities which produce such pollutants are or will be located on the site. As the proposed project is anticipated to incrementally reduce total vehicle trips to and from the site, this would represent an incremental decrease in the amount of pollutants generated. In summary, as no significant amounts of pollutants are expected to be generated, no significant air quality impacts are anticipated.

Community Resources

Fiscal Conditions

There will be an increase in the amount of property taxes paid to the various taxing jurisdictions due to the proposed expansion program. Specifically, as the proposed project represents improvements to the property, a modified tax abatement program has been established, for which FTC will initially pay taxes based on 50% of the assessed value of the improvements, increasing by 5% annually over a ten year period. At the completion of this period, the improvements and remainder of the campus will both pay taxes based on 100% of their assessed values.

It is not anticipated that the proposed expansion program will result in any impact on property values in the vicinity, as the FTC campus has been present for a number of years without such an impact. The proposed project represents an incremental increase in the intensity of an existing use, not an entirely new use in an area dominated by an incompatible use.

Safety and Security

The existing FTC security patrol will expand its operations to include surveillance of the new buildings. It is anticipated that resident assistants will inhabit each new building, providing trained supervision of residents and the campus.



Mitigation Measures

Geological Resources

Since all grading at the site has been completed in accordance with the development and grading plans, no further mitigation is required.

The portions of the site still to be developed will be subject to grading operations to provide an acceptable surface on which development can take place which will be followed by installation of landscaping to provide a means of stabilizing the soil to prevent erosion as soon as practicable following grading.

Erosion preventive measures to be taken during construction activities have included: groundcovers (vegetative or artificial), drainage diversions, soil traps, minimizing the area of soil exposed to erosive elements at one time, and minimizing the time span that soil is exposed to erosive elements. Physical measures installed as part of the construction consist of retaining walls and the lower levels of building structures have been built into sloped areas to add additional support to soils on the property. Applicable Town of Huntington standards and construction practices specified by the appropriate Town agencies will be followed.

Transportation

As no impacts to the area roadways or intersections are anticipated, no mitigation measures are necessary or proposed.

As the proposed project will have only an imperceptible impact upon the operation of the signalized and unsignalized intersections and driveways, no roadway or traffic control mitigation is required or proposed.

As no significant impacts to public transit are anticipated from the proposed project, no mitigation measures are necessary or proposed.

Land Use and Zoning

As the use of the proposed project will not impact the land use pattern of the vicinity, no mitigation measures in this regard are necessary or proposed, other than conformance with all applicable standards of the Town Code and the design measures already approved by the Town Planning Board in its Site Plan approval.

As no impact to the zoning of the site, the zoning pattern in the vicinity or the conformance of the project to the Town Code are anticipated, no mitigation is necessary or proposed.



Open Space

As the proposed project does not represent a significant impact on the open space value of Open Space Index parcel SE-22, no mitigation is necessary or proposed.

Groundwater

The proposed development of the site will utilize individual on-site sewerage systems for disposal of sanitary wastes. The overall nitrogen concentration in recharge of 8.51 mg/l will result from irrigation, stormwater runoff and sanitary discharges. The anticipated concentration is less than the NYSDEC drinking water standard of 10 mg/l and therefore, the proposed project is not expected to result in significant adverse effects to groundwater quality with regard to nitrogen loading.

SONIR computer model results for the proposed project indicate that a total of 31.53 MG/yr of water will be recharged on the site. In conformance with the Town requirements, all stormwater runoff generated on developed surfaces will be retained on-site, to be recharged to groundwater in proposed stormwater catchbasins and leaching pools.

Where applicable, construction will utilize water-saving plumbing fixtures and systems.

Community Character

Cultural Resources

As no impacts to cultural resources are expected, no mitigation measures are necessary or proposed.

Air Quality and Noise Conditions

The absence of activities associated with the college campus which could result in significant air or noise emissions is the primary mitigation measure. The housing facilities will improve student convenience and potentially reduce commuter trips, as a portion of the student population will be housed on-site, and therefore will not commute to or from the property. Paving the gravel parking area has the potential to reduce the tire noise and dust, and will improve facilities, circulation and use of the lot.

Community Resources

Fiscal Conditions

The increase in taxes paid by FTC due to the proposed project will mitigate the incremental increase in the cost of services imposed on the public services which serve the site. It should be noted that these services are already being expended on the FTC site; the proposed project



represents only an incremental increase in the level (and cost) of these services, and not an entirely new location requiring such service.

Safety and Security

It is anticipated that the existing campus security system (including cameras, lighting and foot patrols) will be expanded to include the new buildings. In addition, safety and fire/smoke alarms will be installed throughout the new buildings, as required by NYS law and prudent design considerations.

Alternatives

SEQRA requires the investigation of reasonable alternatives to a proposed action in order to determine the merits of the project as compared to other possible uses on the subject site, in consideration of the goals and capabilities of the applicant as well as realistic circumstances of the situation. The discussion and analysis of each alternative should be conducted at a level of detail sufficient to allow for the comparison of various impact categories by the decision-making agencies. Following are the three alternatives determined by the lead agency to merit consideration:

- Alternative 1 - assumes that the three buildings which are presently completed and occupied (designated #1 and #2) or substantially completed (#3, approximately 70% completed) are utilized as the proposed Living/Learning Center. The fourth building (#4 and about 20% completed) is demolished.
- Alternative 2 - assumes that the proposed action is completed, with a new vehicle access provided to the North Service Road of the LIE, while all access to the parking lot from Burrs Lane is closed.
- Alternative 3 - assumes that only three of the proposed dormitory structures are utilized for a Living/Learning Center; the fourth building (presently about 20% completed) would be utilized for classroom space.

Matters to be Decided

This Draft EIS is intended to provide the Town of Huntington ZBA with the information necessary to render a decision on the Five Towns College Living/Learning Center Special Use Permit application. This document is intended to comply with SEQRA requirements as administered by the Town of Huntington ZBA. Once accepted, the document will be the subject of public review, followed by the preparation of a Final Environmental Impact Statement (FEIS) for any substantive comments on the DEIS. Upon completion of the FEIS, the ZBA will be responsible for the preparation of a Statement of Findings, which will form the basis for the final decision on the Special Use Permit application. The table below lists all the permits and approvals required to implement the proposed project, a number of which have already been issued, as noted in the table.



ISSUING AGENCY	TYPE OF PERMIT/APPROVAL
Town Planning Board	Site Plan Approval*
Town Zoning Board of Appeals	Special Use Permit
Town Department of Buildings	Building Permits*
Town Highway Department	Roadwork Permit*
Suffolk County Dept. of Health Services	Article 6 (Sanitary System design review)*
Suffolk County Dept. of Health Services	Article 4 (Water Supply System design review)*
Dix Hills Water Authority	Water Supply Connection*

* Issued for current project



SECTION 1.0

DESCRIPTION OF THE PROPOSED ACTION



1.0 DESCRIPTION OF THE PROPOSED ACTION

This document is a Draft Environmental Impact Statement (DEIS) for the Five Towns College Special Use Permit application. Five Towns College (FTC) is an institution of higher education located on the east side of Burrs Lane, north of the LIE North Service Road and south of Half Hollow Road, in Dix Hills, Town of Huntington. There are a number of differing land uses which are complementary to that of FTC represented in the vicinity, though the dominant land use is residential in nature. The proposed project will increase the amount of building area on the campus, by adding four dormitory buildings (designated the “Living/Learning Center”), which will enable the residency of 208 individuals. At present, the first two of these dormitories have been completed and are currently occupied, while the remaining two are in different stages of construction. As discussed in detail in **Section 1.1.3** below, though the Town Planning Board has reviewed the project and had issued a Negative Declaration and a Site Plan approval (construction is nearly complete), the project now requires a Special Permit. The Town Zoning Board of Appeals (ZBA) is empowered by Town Code Section 198-68(A)(12) to issue the special use permit.

The New York State Environmental Quality Review Act (SEQRA), as codified in Title 6 of the New York Code of Rules and Regulations (6 NYCRR) Part 617.8 (b) indicates that, if scoping is conducted, the project sponsor must submit to the lead agency a draft scope that contains the items identified below. The lead agency must provide a written final scope to the project sponsor, all involved agencies and any individual that has expressed an interest in writing to the lead agency within 60 days of its receipt of a draft scope. If the lead agency fails to provide a final scope within this period, the project sponsor may prepare and submit a DEIS based on the draft final scope. The final written scope should include:

1. A brief description of the proposed action;
2. The potentially significant adverse impacts identified both in the positive declaration and as a result of consultation with the other involved agencies and the public, including an identification of those particular aspect(s) of the environmental setting that may be impacted;
3. The extent and quality of information needed for the preparer to adequately address each impact, including an identification of relevant existing information, and required new information, including the required methodology (ies) for obtaining new information;
4. An initial identification of mitigation measures;
5. The reasonable alternatives to be considered;
6. An identification of the information that should be included in an appendix rather than the body of the DEIS; and
7. Those prominent issues that were raised during scoping and determined to be not relevant or not environmentally significant or that have been adequately addressed in a prior environmental review.

Under SEQRA, the “lead agency” is the government body that has the primary jurisdiction for the application being considered. The action under consideration is for a special permit, which is under the purview of the Huntington ZBA. Although roadway improvement, wastewater



treatment system and water supply permits and approvals are required (and have been issued) from other government jurisdictions, the need for a special permit has necessitated the current application before the ZBA. Accordingly, this DEIS will be submitted to the Huntington ZBA to address possible significant environmental impacts of the proposed project.

The draft scope for this DEIS was prepared by the project sponsor and submitted consistent with SEQRA procedures. Based upon comments received from the public and agencies, the lead agency revised the draft scope, and issued its Final Scope on August 15, 2002. This document has been prepared consistent with this Final Scope.

1.1 Project Purpose, Need and Benefits

1.1.1 Objectives of the Project Sponsor

The project sponsor seeks to provide excellence in education, accessibility of college programs and appropriate convenience to the student body. The proposed project achieves these objectives.

Over the past 30 years the Five Towns College curriculum has evolved. This evolution is the result of a deliberate effort by the College to diversify its curriculum and emerge as a selective small private college. This evolution has resulted in increased enrollment of some programs and in the retrenchment of others.

When Five Towns College opened its doors in Dix Hills for the Fall 1992 semester, its first semester in the Town of Huntington, there were 674 full-time undergraduate students enrolled. At the end of the Spring 2002 semester, the last full academic term offered by the College, there were 870 full-time undergraduate students and the full-time equivalent of 22 graduate students enrolled, comprising a total student population of 892. Thus, after a decade, the College has increased its student population by 218 students. (The head count of graduate students totaled 60 individuals as of the Spring 2002 semester. These individuals are primarily part-time students who registered for a total of 267 credit hours of coursework. These credit hours equate to a full-time equivalent enrollment of just 22 students. The College does not accept new part-time undergraduate students). The College believes that its enrollment has stabilized for the following reasons:

- College septic fields will be at or near build-out capacity upon completion of the Living/Learning Center. In order to accommodate residential students, who generate 75 gallons of water per day according to Article 6 of the Suffolk County Sanitary Code (SCSC), the College made the decision to forego 15 commuter students for every one (1) resident student (commuter students only utilize 5 gallons of water per day under SCSC). Indeed, from a wastewater generation perspective, the College might have added up to 3,120 new commuter students to its full-time student body instead of 208 residents it chose to accommodate.



- The College's residential program has achieved full enrollment as projected. With one out of every two applicants to the College residing out-of-town, the College expects to become highly selective with regard to out-of-town students within the next few academic cycles.
- The College has translated its overall increasing applicant pool into a more selective enrollment process. Prior to 1992, Five Towns College was classified as "Noncompetitive" in its admissions selection process by *Peterson's Guide to Four Year College*, meaning that virtually all applicants were accepted regardless of high school rank or test scores. By 1992, Five Towns College had moved up a notch and was considered "Minimally Difficult," meaning that up to 95% of the applicants were accepted. After increasing standards throughout last decade, by 2002-03 Five Towns College will qualify as "Moderately Difficult" in its admissions process, meaning that about 85% or fewer of the applicants are accepted. In actuality, the College currently accepts approximately 65% of all applicants and has the goal of being classified as "Very Difficult," meaning that about 60% or fewer applicants are expected to be accepted by the end of the current decade.

These conclusions are supported by the following data. For the Fall 2002 semester, the College received inquiries from approximately 11,000 potential undergraduate students. Of these, 834 students submitted completed applications for consideration by the Admissions Committee. Of these, 540 (65%) were offered admission to the College of which 351 (42%) actually enrolled. After the add/drop period was completed for the Fall 2002 semester, the College census revealed that 335 freshmen were enrolled at the College for the current semester.

Without question the availability of on-campus housing at Five Towns College has helped the College to increase both the size and quality of its applicant pool. However, the size of the student body has remained stable. The College projects that its student profile would possess the following characteristics at build-out:

**Actual Distribution of Students by Class
w/Comparison to Projections at Build-Out**

	<u>2003</u>	<u>Build-Out</u>
Freshman	335	351
Sophomores	257	246
Juniors	200	192
Seniors	144	176
Graduate Students	<u>27</u>	<u>51</u>
Total	963	1,016



Projected Student Population by Resident/Commuter Status at Build-Out*

Freshman	52/299
Sophomores	52/194
Juniors	52/140
Seniors	52/124
Graduate Students	<u>0/ 51</u>
TOTAL	208/808

* Resident populations are expected to remain constant by class. Because of the strong demand for on-campus housing, vacancies will be filled by students from the same class, insuring that 25% of all beds become vacant each year to accommodate the incoming freshman class.

Since relocating to Dix Hills the College has added the following undergraduate programs:

Bachelor of Fine Arts (B.F.A.) in Theatre Arts
Bachelor of Science (B.S.) in Childhood Education (Grades 1-6)
Bachelor of Science (B.S.) in Mass Communication

Since relocating to Dix Hills the College has discontinued the following academic programs:

Associate in Applied Science (A.A.S.) in Music Instrument Technology
Associate in Applied Science (A.A.S.) in Real Estate
Associate in Applied Science (A.A.S.) in Secretarial Science
Certificate Programs (All)

With respect to the concern raised by the Director of Planning regarding business degree programs, the College has offered business degree programs since its founding in 1972. In 1991 it began offering the Bachelor of Professional Studies in Business Management, and continues to offer that program. There have been no new business degree programs added by the College since 1991.

The distribution of degree candidates at Five Towns College has diversified, and enrollment patterns have been consistent with the data originally supplied by the College in EAF Parts 2 and 3 dated June 22, 1999.

By comparing the actual enrollment figures for the 2003 academic year it becomes readily apparent that with two dormitory buildings already occupied the amount of wastewater generated is significantly less than that allowed under the SCSC. Inasmuch as the population that will occupy Building 3 is already in attendance at the College and residing temporarily at SUNY Farmingdale, the opening of Building 3 will not add any students to the College's overall population. These students will merely move over to Five Towns College. When Building 3 opens, the amount of wastewater generated will increase, but the amount generated will still be significantly less than that allowed under the SCSC. A modest increase in enrollment is project to occur when Building 4 opens, inasmuch as these residents are projected to emerge from the College's applicant pool.

**Actual Distribution of Students by Degree Program
w/ Comparison to Projections at Build-Out**

	<u>Fall 92</u>	<u>Spring 02</u>	<u>Build-Out</u>
Mus. B. Jazz/Commercial Music	118	185	225
Mus. B. Music Education	36	15	50
B.P.S. Business Management	189	422	300
B.S. Childhood Education	NA	24	80
B.S. Mass Communication (1)	NA	NA	80
B.F.A. Theatre Arts	NA	82	120
A.A. Liberal Arts	6	11	25
A.S. Business Administration	3	0	0
A.A.S. Business Management	202	120	60
A.A.S. Jazz/Commercial Music	102	11	25
A.A.S. Music Instrument Technology	17	Discontinued	NA
A.A.S. Secretarial Science	1	Discontinued	NA
TOTAL UNDERGRADUATES	674	870	965
Graduate Students (All Programs)	NA	22	51
TOTAL ENROLLMENT	674	892	1016

(1) Bachelor of Science (B.S.) degree program in Mass Communication is scheduled to begin in the 2002-03 academic year. Initial enrollment of 9 students projected to increase to 80 students. Mass Communication enrollment will reduce enrollment in business degree programs by a factor of 1:1.

**Actual Distribution of Students by Degree Program
w/ Comparison to Projections at Build-Out**

	<u>1992</u>	<u>2002</u>	<u>Build-Out</u>
Business Degree	397	542	360
Music	220	196	250
Theatre	NA	82	120
Education	36	39	130
Liberal Arts	6	11	25
Other	18	0	0
Mass Communication	0	0	80
Graduate Students	NA	22	51
TOTAL	677	892	1,016

Significantly, the enrollment patterns demonstrate that Five Towns College has nearly completed a 15-year transition from an open enrollment junior college to a moderately selective senior college with a modest residential component to accommodate students who live in areas too distant to commute from. While its degree programs are more diversified today than a decade ago, total enrollment has stabilized and is projected to remain constant as standards for admission continue to rise. The on-campus residential population of the college has reached maturity and is not projected to increase, creating a very competitive environment for out-of-town students seeking to enter the institution, consistent with institutional overall enrollment goals.

**Actual Distribution of Students by Level of Degree
w/Comparison to Projections at Build-Out**

	1992	2002	Build-Out
Associate	331	142	110
Bachelor	343	728	855
Masters	NA	22	41
Doctorate (i)	NA	NA	10
TOTAL	674	892	1,016

- (i) *The College's faculty has proposed a new Doctorate of Musical Arts (D.M.A.) degree program, which is currently in the planning stages. No start date has been established inasmuch as the proposed program must be approved by the NYS Board of Regents, and registered by the NYS Education Department. At its peak, the proposed program is not expected to enroll more than the equivalent of ten (10) full-time students.*

**Comparison of Actual Wastewater Generation (2003) w/Projected Generation at Three
Dormitory Buildings and Four Dormitory Buildings (Build-Out)**

	Existing (2 dorms open)	(3 dorms open)	Proposed Project (4 dorms open)
Commuters (x 5gpd)	(859) 4,295	(807) 4,035	(808) 4,040
Residents (x 75 gpd)	(104) 7,800	(156) 11,700	(208) 15,600
SUB-TOTAL	(963) 12,095	(963) 15,735	(1,016) 19,640
Staff (x 5gpd)	(82) 410	(84) 420	(102) 510
TOTAL	(1045) 12,505	(1047) 16,155	(1,118) 20,150

1.1.2 Benefits of the Project

Social Benefits

The public in general and the adjacent community in particular will benefit in a number of ways from the proposed action. These include the incremental increase in educational opportunities, reduction in traffic-related impacts due to the reduction in traffic on area roadways (due to on-site housing) and increased capacity of on-site parking, employment opportunities, and ancillary services and cultural opportunities provided by a performing arts-oriented college.

It should be noted that under applicable sanitary code, FTC is permitted to generate 20,160 gallons of sanitary wastewater per day (gpd). If FTC were to remain as presently configured with 104 resident and 788 commuter students, it would be permitted, as a matter of right, to add 1,582 new commuter students (each generating 5 gpd of sanitary wastewater), raising its total commuter student population to 2,370. Under the current plan, FTC has significantly reduced this impact. It must be emphasized that, inasmuch as resident students generate significantly more sanitary wastewater than commuter students, FTC's decision to institute on-campus housing means that the maximum allowable capacity of the wastewater system determines how many and what type of students can be accommodated at the College. Thus, the proposed project



represents a significant reduction in potential impacts to the character of the community and its roadways, by significantly reducing the potential increase in the number of commuter students.

Economic Benefits

The public will benefit from the incremental increase in construction employment, construction wages and increased building material sales generated during the construction period, as well as from the incremental increase in college-related employment opportunities. College employment figures demonstrate that one job is created on-campus for every 11 students. In addition, the college utilizes a "good neighbor" policy, whereby it gives preference to prospective employees who reside within the Town of Huntington, and whereby it purchases goods and services locally whenever possible.

1.1.3 Project Background and Litigation History

- The history of this application began in March 1998 when Five Towns College (FTC) applied to the Huntington Town Planning Board for an amended site plan approval to construct a Living/Learning Center consisting of four buildings at its campus located in Dix Hills, New York [see **Overall Site Plan**, in folder at rear]. The Living/Learning Center consists of living accommodations where students pursue their academic goals and develop their artistic skills within the Center.

Town officials acknowledged that the construction of a dormitory was thought to be a permitted accessory use to a College, and would be permitted "as of right" in the existing one-acre (R-40) residential district.

- After FTC filed the amended site plan application, representatives of the House Beautiful at Dix Hills Homeowners' Association, Inc. ("House Beautiful") contacted elected and appointed officials of the Town seeking to have the Planning Board refuse to hear the application, predicated upon the contention that ZBA action was first required.
- House Beautiful applied to the ZBA on November 9, 1998 requesting that the ZBA interpret Section 198-13(A)(5) and 198-13(B)(7) of the Huntington Town Code to determine whether the Living/Learning Center was an accessory use permitted as of right. House Beautiful requested the ZBA to interpret the zoning chapter as requiring FTC to apply to the ZBA for approval of the Living/Learning Center as a special exception or conditional use, and thereby requiring a Special Use permit pursuant to Huntington Town Code Section 198-68(A)(12).

The House Beautiful request and application to the ZBA was submitted pursuant to Section 198-109(B) of the Town Code, which empowers the ZBA to interpret the Code.

- The ZBA assigned a docket number to the House Beautiful application on or about November 9, 1998 (case #15995). The Director of Planning of the Town of Huntington, Mr. Richard Machtay in a letter dated November 9, 1998 advised House Beautiful that the proposed Living/Learning Center was determined to be a permitted accessory use which did not need *"any other action by any other board of the Town."* The Director informed House



Beautiful that the Planning Board would consider the application. The Town of Huntington and the ZBA never made any request to the Planning Board to desist from acting on the application, or on the issue of whether or not the proposed dormitory use was permitted as of right or required conditional use or special use approval from the ZBA.

- The ZBA took no further action on the 1998 application filed by House Beautiful, and. House Beautiful did not request the ZBA to act on its application for two years, until October 10, 2000.
- During the intervening period, the Planning Board conducted SEQRA review of the application, in order to determine significance of the project. Based in part upon the Environmental Assessment Form (EAF) Parts 1, 2 and 3 prepared by the Town Department of Planning and Environment (dated June 22, 1999, see **Appendix A-1**), the application was scheduled for a Determination of Significance at the July 7, 1999 hearing. However, correspondence from House Beautiful (see **Appendix A-2**) requested an adjournment of this matter, to afford House Beautiful sufficient time to review the application and provide "well reasoned" comments to the Board. In the event that the Planning Board would not grant the adjournment, House Beautiful requested that the application receive a Positive Declaration under SEQRA, thereby requiring a DEIS. The Board decided to adjourn the matter. **Appendix A-3** contains a Town Department of Planning and Environment memo responding to the substance of the House Beautiful letter and request.
- On July 14, 1999, the Town Planning Board, after review of the memo, issued a Negative Declaration (see **Appendix A-4**). The Planning Board then proceeded to consider the application for site plan approval.
- A lengthy hearing was held on November 10, 1999. The House Beautiful supporters vociferously raised the issue of the necessity for a special use permit.
- The Planning Board rejected the contention of House Beautiful and on May 24, 2000 approved the site plan (see **Appendix A-5**), consisting of all four proposed buildings, concluding that FTC was entitled to construct the Living/Learning Center as a matter of right without the necessity to apply to the ZBA. The determination was filed on May 30, 2000.
- House Beautiful commenced an Article 78 proceeding on June 21, 2000 to annul the site plan approval determination of the Planning Board.
- On or about July 8, 2000, FTC applied for a building permit for the project. The Town Building Inspector issued the first building permit (#2266) on August 10, 2000.
- During the pendency of the House Beautiful Article 78 proceeding, House Beautiful persuaded the Town to issue a stop order without any notice to FTC. The Town Department of Engineering Services issued an unauthorized and illegal stop work order on August 28, 2000. FTC was then forced to commence an Article 78 proceeding to compel the revocation of the illegally-issued stop work order.



- In September 2000, FTC obtained a judgment in the NYS Supreme Court directing the Town to rescind the illegal stop order. FTC, after the illegal interruption, then resumed construction of the Living/Learning Center.
- Additional building permits were issued on September 14, 2000 (#2596) and September 27, 2000 (#2741). The building permit for the retaining walls was issued September 14, 2000.
- On October 10, 2000, House Beautiful resurrected its November 1998 ZBA application by filing an "Application Amendment" with the ZBA. Again, it asserted the same claim that was made before the Planning Board and that was contained in the petition before Mr. Justice Gowan of the NYS Supreme Court.
- On January 10, 2001, Mr. Justice Gowan granted the motions of FTC and the Town of Huntington to dismiss the House Beautiful Article 78 proceeding.
- Despite dismissal of House Beautiful's cause of action in the Supreme Court, the ZBA held a hearing on January 11, 2001.
- Subsequently, the ZBA on January 23, 2001, January 29, 2001 and February 2, 2001 rendered its decisions revoking the building permit (#2266).
- The Town applied to the NYS Supreme Court for a temporary stay on February 2, 2001. The stay was granted and remained in effect until the determination of Mr. Justice Floyd on March 15, 2001, when the right of FTC to build was sustained by that court.
- Mr. Justice Floyd determined that the project could legally continue.
- FTC proceeded to complete two of the four buildings (numbers 1 and 2). Classes have been conducted and occupancy of these buildings has taken place since September 5, 2001, when the Town of Huntington issued the certificates of occupancy for Buildings 1 and 2.
- The building permits for Buildings 3 and 4 were issued in June 2001. Construction of Buildings 3 and 4 proceeded until the permits were revoked by the Town after the Appellate Division ruling adverse to FTC in April 2002.
- All of the drainage and site work has been completed in connection for all four buildings. At the present time, Building 3 is approximately 70% completed, Building 4 is about 20% completed, and only two retaining walls and half of the interior road remain incomplete.

A suggestion was made that the buildings were constructed without proper permits. It is important to correct the record to reflect that, as established above, construction only proceeded with proper permits either granted by the Town or restored by the NYS Supreme Court. At no time did any construction take place without proper permits being in place.

Appendix A-6 contains the transcript of the public hearing held on June 6, 2002 by the ZBA for the Special Use permit application for the project, and **Appendix A-7** contains the EAF Part 3, Positive Declaration and ZBA Resolution for that application. Finally, **Appendix A-8** contains



the Final Scope for the project, which presents the content of the DEIS and the extent of information necessary to address those issues listed in the DEIS.

1.1.4 Community Opposition

The concerns of House Beautiful were expressed during the June 6, 2002 ZBA hearing. It was suggested that the College compromised the ability of the ZBA to suggest alternate locations for the buildings. The record should reflect that the first application was made to the ZBA as early as 1998, but that the ZBA declined to involve itself. If it had considered this matter at that time, this entire controversy might have been avoided. The College merely followed the direction of the Town of Huntington, its Planning Board and the New York State Supreme Court.

The location for the Living/Learning Center in the northwest quadrant of the Five Towns College campus, was selected for three primary reasons:

1. Proximity of On-Site Food Service

The availability and proximity of support services, such as food service were considered. The location, just a few hundred feet from the cafeteria was optimal considering that students would be patronizing the College's cafeteria for three meals per day. Locations in the southern half of the campus were considered, but rejected because students would have had to cross the parking field for all their meals. The College did consider building a new dining hall along with the Living/Learning Center in the southern half of the campus, but rejected that concept inasmuch as the Living/Learning Center would have had to be 30% larger in order to support the financing necessary for a new dining hall in the southern half. An enlarged Living/Learning Center was considered to be beyond the College's needs.

2. Proximity to Public Safety

The College maintains a full-time professional Public Safety Office. The Living/Learning Center is located immediately adjacent to this Office. Relocating the Living/Learning Center to another campus location would result in a reduced level of security coverage at important locations.

3. Minimizing Pedestrian Traffic

The northwestern location minimizes pedestrian traffic near adjoining neighbors. The design of the Living/Learning Center is such that all pedestrian traffic moves south, away from neighbors. Indeed, there are no private homes immediate adjacent to the campus in the northwestern quadrant. The northwestern quadrant is bounded in the north by Half Hollow Road, on the north side of which the College has only four neighbors - one of which is vacant, and on the west by Burrs Lane, along which the College has no neighbors. Indeed, the easterly side of Burrs Lane is owned entirely by the Half Hollow Hills CSD, which utilizes the property as a bus depot. That property forms a deep, heavily forested buffer between the College and neighbors on Pettit Drive. This buffer also includes two recharge basins that provide a physical barrier between the Pettit Drive neighbors and the resident students, running the entire length of the Living/Learning Center. Locations in the southern half of the campus were rejected inasmuch as pedestrian traffic would have brought resident students within close proximity to adjoining property owners on Lone Hill Place and



Broad oak Court, where there are seven (7) private homes directly abutting the campus, every time they walked to the main building for meals and classes.

4. Conservation of Athletic Fields

Locating the Living/Learning Center in the northwest quadrant preserved the flat athletic fields in the southern half of the campus. These fields have been utilized primarily by local community groups such as the Dix Hills Soccer Club. The College intends to maintain its current relationship with community groups, and will continue to make campus facilities available for various Town and community group and functions.

The first year of operation of Symphony and Harmony Halls (Buildings 1 and 2) validates the selection of the northwest quadrant as the best location for the Living/Learning Center. The College has received no complaints about loud noise disturbances or nuisance pedestrian traffic from any adjoining property owner. This is supported by the Town of Huntington, Department of Public Safety, whose records reveal that not one complaint has been filed against the College since the Living/Learning Center opened-and not a single violation, noise summons or otherwise has been issued. Similarly, students report that the residence halls are conveniently located to food service, public safety, and academic areas of the college. In addition, records maintained by the College document that there have been no accidents or injuries by students crossing parking fields, and the College's athletic fields remain available for community use.

Other Design Criteria

During the design phase, the College had an opportunity to meet with various community groups. The following suggestions were adopted:

1. Four smaller structures instead of one large dormitory-looking structure

One suggestion received by the College was that the Living/Learning Center not be constructed as a single dormitory. Rather, it was suggested that smaller buildings (that would be less intrusive in appearance in comparison to the existing residences) would be more in keeping with the character of the surrounding neighborhood. The College adopted this recommendation, even though the annual cost of operation was increased. The neo-classic architecture of the Living/Learning Center blends nicely with the surrounding community.

2. No Parking Near the Living/Learning Center

It was recommended that resident students not be permitted to park cars at the Living/Learning Center. This was suggested to eliminate the noise of car doors opening and closing in this area, and to avoid the need for a parking lot in this area as well. This suggestion was adopted. A separate parking field for resident students was not constructed.

3. Utilize building materials that will reduce the possibility of noise "bleed"

It was suggested that insulated windows would reduce noise bleed. It was also suggested that the entire center be air-conditioned to discourage open windows in warmer weather. Both of these suggestions were adopted.

4. Install fencing to reduce pedestrian traffic to the north

It was recommended that physical barriers would discourage pedestrian traffic to the north. This suggestion was adopted. Upon completion the Living/Learning Center will be



completely fenced with a single point of ingress and egress for pedestrian traffic located at the southern end of the Center.

5. Public Safety

It was recommended that the College develop an appropriate Public Safety staff. The College adopted this proposal, and located the Living/Learning Center close to the Public Safety Office. In addition, the Living/Learning Center has a security booth located at its main entrance, and utilizes electronic access controls in all buildings.

6. Include Buffer Zones

One homeowner who resides on Black Oak Court suggested that buildings three and four each be constructed in an L shape, in order to increase the size of the buffer zone/set back. The original design for those two buildings were the same as buildings one and two, and included a buffer zone/setback of 50 feet from Half Hollow Road. This suggestion was adopted, increasing the buffer zone/setback to 130 feet, retaining a heavily-wooded buffer zone at the corner of Burrs Lane and Half Hollow Road.

7. Minimize vehicular traffic

A few House Beautiful members suggested that no students be permitted to have a private vehicle on campus. Others suggested that every student should be permitted to have a vehicle. The College adopted a compromise solution and will only permit resident student who have achieved junior standing to register a car once the Living/Learning Center is completed. The College anticipates that 30% of those permitted to register a car will actually bring one to campus resulting in about 60 vehicles. The number of vehicles is expected to decrease to no more than 30 on weekends, inasmuch as the College exhibits all of the characteristics of a traditional "suitcase" campus, whereby more than half of all resident students travel to their parents homes on weekends.

8. Close the north-south service entrance off Half Hollow Road

For more than 30 years, the Half Hollow Hills CSD utilized the north-south entrance off Half Hollow Road to service this facility. One neighbor (whose home went into foreclosure and no longer resides in the community) requested that the College eliminate this entrance. The College adopted this suggestion; but was required to maintain the road for secondary emergency access by the Dix Hills Fire Department. All service vehicles enter the College from Burr's Lane, and this secondary emergency access road will remain closed except for emergency use.

9. Mitigate the visual impact of retaining walls

The College sought to minimize the use of retaining walls, which were necessitated by the rising elevation of the building site. Originally the retaining walls were "tucked" more discreetly into the building site. However, the Fire Department insisted that the building site be spread out to the north and east in order provide better access for emergency vehicles utilizing interior roadways. In order to mitigate the visual impact of these more exposed retaining walls for passing motorists, the College insisted that the walls be stamped with a stone pattern. In addition, the College will provide for extensive screening with natural vegetation and clinging vines once construction is completed.



1.2 Location

1.2.1 Geographic Boundaries of Site

The Five Towns College property is a roughly-rectangular 33.60-acre site at the southeastern corner of the Half Hollow Road/Burrs Lane intersection, in Dix Hills (see **Figures 1-1 to 1-3**).

The address of FTC is 305 North Service Road; the Suffolk County Tax Lot designation of the site is: District 0400; Section 261; Block 03; Lot 01.2.

Adjacent to the eastern border of the property are the rear lot lines of eight homesites along Lone Hill Place and Broadoak Lane. The Long Island Expressway (LIE) and its North Service Road lies along the site's southern boundary.

1.2.2 Site Access

There are at present three vehicular entrances to the site, all are located on Burrs Lane. The main entrance is approximately 1,030 feet south of Half Hollow Road and allows for all turning movements; it is controlled by a stop sign. Two secondary accesses are located about 250 feet to the north and 130 feet to the north of the main entrance. The northerly access does not connect internally to the main access, while the main access serves the parking area and the classroom building. The middle entrance accesses a traffic oval, which is used primarily by visitors and Suffolk County Transit. A fourth site access is located on Half Hollow Road; however, this feature is now only used for emergency access which, during the on-going construction program (temporarily halted pending completion of the SEQRA process; see **Section 1.1.3**) is being used as a construction entrance. When the construction process is completed, this entrance will be returned to its prior function of gated emergency access, and will be surfaced with grass pavers, not asphalt. Following the construction period, all vehicle entrances/exits will be conducted on Burrs Lane.

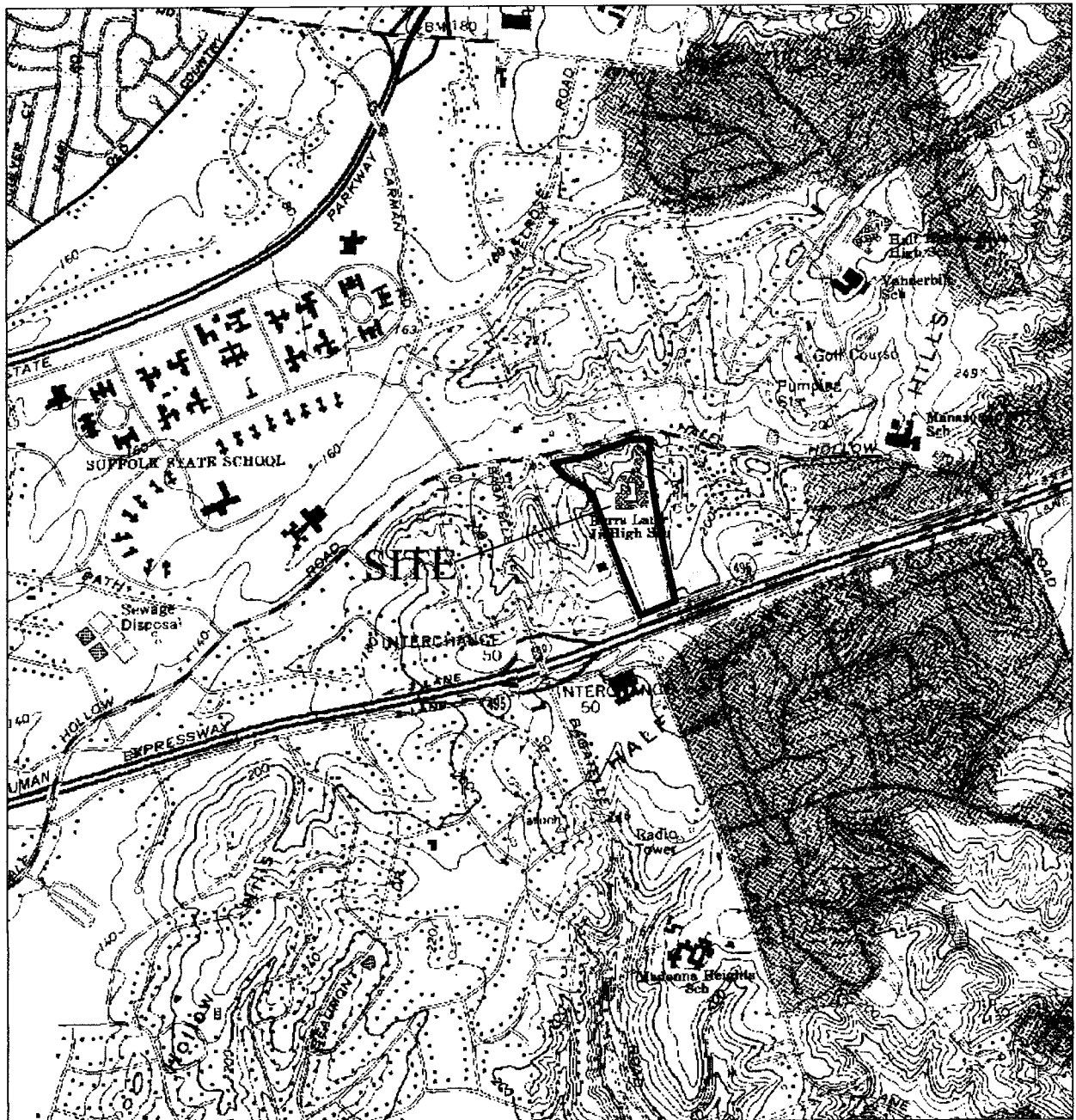
1.2.3 Site Zoning

The site is zoned by the Town of Huntington as R-40 (Residence), in which detached, single-family dwellings are the primary use permitted. However, the present institutional use is also allowed as-of-right. As a result, no zoning change is required for the proposed action. However, as specified in Town Code Chapter 198-13(A)(5) and (B)(7), and as determined by the NYS Appellate Court decision (see **Section 1.1.3**), the proposed action requires a Special Use Permit from the Town ZBA for the dormitory use.



FIGURE 1-1

LOCATION MAP



Source: USGS 7.5 Minute Topographic Quadrangles (Huntington, Greenlawn)
Scale: 1" = 2000'



FIGURE 1-2

AERIAL PHOTOGRAPH OF SITE AND VICINITY



Source: GeoMaps Aerial Photographs, 1999
Scale: 1" = 1000'



FIGURE 1-3

AERIAL PHOTOGRAPH OF SITE



Source: GeoMaps Aerial Photograph, 1999
Scale: 1" = 400'



1.3 Project Design and Layout

The folders at the end of this document contain the various project plans discussed below; in addition, **Table 1-1** lists various site and project characteristics of the proposed project, along with those of the site prior to the onset of the current construction program.

1.3.1 Total Site Area

The **Overall Site Plan** depicts the location of the proposed project in the context of the total FTC campus; this construction area includes the northwestern corner of the property as well as the parking area expansion to the south, adjacent to the existing gravel parking area. It is bounded on the south by the existing service/delivery entrance roadway, on the east by the existing emergency access roadway off Half Hollow Road (now in use as the only construction access), and on the north and west by Half Hollow Road and Burrs Lane, respectively. More specifically, the **Alignment Plan** shows the arrangement of the four dormitory structures and the locations of the sidewalks, retaining walls, sanitary and drainage systems, and landscaping within this development area.

The buildings have been grouped to the northwest of the existing structure, in a formerly sloped area that was previously wooded. Retaining walls have been designed, reviewed, approved and constructed downslope of this grouping of buildings to the north and west, as well as between the buildings. The walls have enabled the construction of these buildings and associated services and amenities on proper slopes.

The existing east-west site access roadway to the main classroom building will remain in place, off which the project's sidewalk will be accessed. This sidewalk (to be bounded by 5-foot wide strips of grass pavers, for emergency vehicle access to the structures) will loop from the main entrance roadway to the emergency access roadway.

1.3.2 Structures

Building Layout

Each of the 2-story buildings will conform to all applicable Town Code requirements; no variances are needed. The four new dormitory structures are two stories in height, with 16 or 19 residential units on each floor, with bathrooms and meeting rooms. The cellars contain open spaces, storage rooms, security offices, vestibules and maintenance closets. No student residences will be located in the cellars. One staff apartment is planned for Building 3 and one for Building 4; the Dean and Associate Dean of Residential Life are required to live on-campus as a condition of employment. In consideration of the grading required to provide proper slopes, the cellars will be of the "walk out" variety, enabling access directly from the cellar level to the exterior, where grading allows.



**TABLE 1-1
SITE AND PROJECT CHARACTERISTICS**

Parameter	Existing Conditions**	Proposed Action
<i>more definitive</i> Use	Main Bldg./classrms. & admin. Bldg. 1/32-36 units Bldg. 2/32-36 units Bldg. 3/32-36 units* Bldg. 4/32-36 units*	Main Bldg./classrms. & admin. Bldg. 1/32-36 units Bldg. 2/32-36 units Bldg. 3/32-36 units Bldg. 4/32-36 units
Yield	Main Bldg./120,000 SF Bldg. 1/17,022 SF Bldg. 2/17,020 SF Bldg. 3/18,110 SF* Bldg. 4/18,110 SF*	Main Bldg./120,000 SF Bldg. 1/17,022 SF Bldg. 2/17,020 SF Bldg. 3/18,110 SF Bldg. 4/18,110 SF
Total Floor Area	190,262 SF	190,262 SF
Coverages:	---	---
Building (acres)	3.56	3.56
Pavement (acres)	5.32	6.66
Gravel Parking (acres)	1.34	0
Lawn/Landscaping (acres)	12.63	12.63
Natural (acres)	10.75	10.75
Water Resources:	---	---
Wastewater Gnrtn. (gpd)	12,505	20,150
Recharge Volume (MGY)	28.48	31.53
Nitrate Conc. (mg/l)	5.48	8.51
Trip Generation:	---	---
AM Peak Hour (vph)	216	268
PM Peak Hour (vph)	206	258
Saturday Peak Hour (vph)	---	52
Miscellaneous:	---	---
Total Enrollment (capita)	963	1,016
Commuter (capita)	859 (1)	808
Residential (capita)	104	208
Residential Capacity (beds)	104	208
Faculty/Staff (capita)	82	102
Solid Waste (lbs/day)	2,889 (est.)	3,048 (est.)
Parking Spaces Required	260	330
Parking Spaces Provided	537	537

* Building is unfinished and units are unoccupied.

** Based upon 2002-03 academic year.

(1) An additional 1,582 commuter students could be accommodated.



The Suffolk County Sanitary Code establishes that each resident will generate 75 gpd of wastewater, while commuter students will generate 5 gpd. Thus, there will be an overall increase in campus wastewater generation as set forth herein, which will require installation of sanitary facilities capable of retaining and treating this volume of wastewater. New septic systems have already been approved and installed for all four buildings.

It is anticipated that lighting fixtures will be provided along the exterior of the development area (directed downward and inwards), and on the exterior walls at entrances and emergency exits, for safety and security purposes. Use of shrouds and downcast fixtures will minimize the potential for fugitive lighting to impact the adjacent residences.

Building Elevations

The completed buildings will be less than the 35-foot maximum height allowed in the R-40 zone; this dimension was found to be in conformance with Town Code Chapter 198-2(A), and was approved by the Town of Huntington Building Department.

Appendix B presents a series of photographs of the buildings and development area. These pictures illustrate that the construction process is in progress, and is useful to convey what the project and site will look like when construction is completed. In general, the buildings incorporate the general architectural theme/character of the existing institutional use while complementing the area. Architecture utilizes materials having textures and colors generally in conformance with those of the area.

Drainage System

The project will utilize a series of new leaching pools (distributed into 6 areas) to retain and recharge all stormwater generated by the proposed project (see **Grading and Drainage Plan**, in folder at rear). The entire system will have a capacity of 20,180 cubic feet (CF) of water, which is 5.6% in excess of the anticipated runoff volume of 19,116 CF (based upon the Town-required standard of a 2-inch rainfall).

1.3.3 Impervious Surfaces

Impervious surface areas have been increased on-site by approximately 33%; this is due primarily from the paving of 1.34 acres of gravel parking area, and only secondarily from the new sidewalks.

1.3.4 Clearing

An estimated 3.26 acres of natural vegetation (primarily woods) were removed for the proposed project. This represents 23% of this type of surface on the campus; in comparison to the entire property, only 9.4% of the campus was cleared for the project.



1.3.5 Open Space

Town Open Space Index parcel SE-22 is located approximately 1,000 feet to the southeast. That 17.6-acre site has been developed with a single-family subdivision and a NYS recharge basin, and therefore does not retain the natural and ecological characteristics for which the site was designated in the first place. As a result, the proposed project will have no impact on this parcel.

1.3.6 Undisturbed Area

As referenced above, 3.26 acres of natural wooded vegetation were cleared for the project, leaving 10.75 acres (31.1% of the overall FTC property) in this type of surface. Because the campus has been developed in the central portion of the property, leaving the perimeters to be retained in a natural state for aesthetic and noise buffering, these perimeter areas will continue to be naturally-vegetated. The clearing for the proposed project represents an incremental reduction of open space on the site.

1.3.7 Visual Character

As referenced above, **Appendix B** contains a series of photographs that indicate the extent of the proposed project, and depict the appearances of the buildings in relation to their surroundings, both on-site and off-site. In addition, the photographs indicate the level of visibility of the project for observers off-site, both along the bordering roadways and residents to the north and west. As can be seen, the buildings (as shown in Buildings 1 and 2) have been designed to blend with and conform to the overall architectural theme/character of the area, while not exceeding the bulk or “presence” of the surroundings. That is, the project is not too massive or visually unappealing for the site. In addition, when the construction process is completed, the proposed landscaping program will further soften potential visual impacts, by increasing the depth and density of buffering vegetation, and by offering attractive fields of view, rather than the unattractive, jarring visual effect of bare slopes and an uncompleted construction area.

1.3.8 Comparison to Approved Plan

The project construction was commenced in conformance with the Site Plan approved by the Town Planning Board, for which the Town Department of Engineering Services issued all appropriate building permits. Thus, the proposed project is indeed the Approved plan, and there are no differences between the proposed project and the Approved Site Plan.



1.3.9 Parking

Parking on the FTC campus is available only in one parking lot, located south of the classroom building. This lot is accessed through the two driveways off Burrs Lane. Prior to the onset of construction, this lot was divided into paved and unpaved sections. Then, additional gravel overflow parking was installed abutting the southerly edge of the lot, resulting in a total parking capacity of 537 spaces (179 paved and 358 unpaved). Subsequently, the original gravel section was paved, resulting in the current 374 paved and 163 unpaved spaces; total parking capacity on-site was maintained at 537 cars. The southerly portion of the lot (the new gravel surface) will also be paved, so that the 537-space capacity of the lot will be maintained. **Table 1-1** indicates that, as two of the dormitories are incomplete and unoccupied, the minimum number of parking spaces required by the Town is 260; when construction is complete and these two buildings are occupied, the parking requirement will be increased to 330 spaces. The site currently contains sufficient spaces to satisfy both parking requirements.

1.3.10 Conformance to Standards and Conditions to Merit Special Use Permit

Article XI, Chapter 198-68(A)(12) of the Town Code lists the uses allowed by special permit (issued by the ZBA). The following provides the Code's discussion pertinent to the proposed project, along with a description/discussion indicating conformance of the project.

A. The Zoning Board of Appeals may authorize the following uses after making all required findings pursuant to the holding of a public hearing as provided in Article XVI. Furthermore, parking and loading facilities, landscaping, fencing, screening, buffering and other mitigation of potential impact on surrounding properties and neighborhoods may be required in connection with any use permitted under this section. Plans for parking and loading facilities shall be referred to the Planning Department for technical evaluation and advisory report, and no decision shall be made until the report has been received or thirty (30) days has elapsed,

(12) Institutions of higher learning offering courses of study approved by the New York State Department of Education, and dormitories or other residence facilities accessory thereto, in any residence district, provided that the lot shall not be less than ten (10) acres in area and buildings shall not occupy more than twenty-five percent (25%) of the area of the lot. The approval of the Suffolk County Board of Health shall be secured prior to the issuance of a certificate of occupancy.

The proposed project involves construction of four (4) dormitory buildings on the campus of Five Towns College. As such, the project represents an incremental expansion of an existing use, and not a change in the type of use, of an existing facility. The campus is approximately 33.60 acres in size, and the project has incrementally increased building coverage, to 10.6%. All appropriate and necessary features such as fencing, landscaping, parking and loading facilities, etc. have been provided in the Site Plan approved by the Town Planning Board and have been constructed as per the approved Building Permit issued by the Town Department of Engineering Services.



Article XI, Chapter 198-66 of the Town Code lists the specific standards to be considered by the ZBA in determining whether to approve a special use permit. The following lists the standards, and provides brief description /discussions of the project's conformance with each.

- A. *The conditional uses listed in this Article possess characteristics of a nature such as to require special review and the application of special standards before locating in districts where they are not permitted by right, in order to assure an orderly and harmonious arrangement of land uses in the district and in the community. Such uses may be permitted conditionally by the Board of Appeals or the Town Board, as specified, after public hearing. A conditional use shall be authorized by a special use permit, and before such permit is issued, the appropriate Board shall find that the proposed use:*
- (1) Will be properly located in regard to transportation, water supply, waste disposal, fire protection and other facilities.*
 - (2) Will not create undue traffic congestion or traffic hazard.*
 - (3) Will not adversely affect the value of property, character of the neighborhood or the pattern of development.*
 - (4) Will encourage an appropriate use of land consistent with the needs of the town.*
 - (5) Will not impair the public health or safety and will be reasonably necessary for the public health or general welfare and interest.*

The proposed project will increase the developed portion of, and facilities on, an existing college campus site. As a result, in large part, the resources, impacts, conditions and characteristics referenced in the Code are already present on-site. The effect of the proposed project will be to only incrementally increase or intensify these characteristics; no significant new impacts will be created, as the college already exists. Furthermore, the Planning Board approved the project and construction was commenced. As a result, the proposed project will conform to this aspect of the Town Code.

Additional, more specific standards to be met are contained in Chapter 198-66(B). These standards are listed below with a discussion of applicability and conformance with the proposed project.

- B. *Before any special use permit is issued, the appropriate Board shall determine that all applicable requirements of this chapter have been met and may impose any additional requirements to assure that the proposed use will be in harmony with the character of the district and will not materially impair the use or value of adjacent properties. Before imposing such conditions, the Board shall consider the following:*



(1) Location and intensity of use.

The project site is located within the confines of the existing FTC campus; as such, the level of intensity of the existing use has long been established for this location, and the proposed project represents only an incremental increase in the associated intensity of use.

(2) Location and height of buildings.

The four buildings have been sited on that portion of the campus which would, in consideration of wooded vegetation and slopes, enable these new structures to be least visible to the adjacent homeowners and passing motorists on all three roadways abutting the site.

(3) Traffic access and circulation.

As proposed, the proposed project will not increase the number, or change the configuration of, the existing single vehicle access to the site. The proposed project will not increase the number of vehicles accessing the site during the peak traffic hours of the adjacent road network, and will actually result in a reduction in the amount of traffic that might be generated if the College were to remain a commuter school. Alternatives discussed in this document do consider an additional access scenario.

(4) Location and extent of parking and loading areas.

The proposed project will pave an existing gravel overflow parking area and maintain overall parking capacity. As this parking area has served the facility for an extended period of time, it may be anticipated that the location and extent will continue to prove adequate for this use. In addition, the project will improve parking conditions by establishing a properly designed and constructed parking area where a gravel lot currently exists.

(5) Location, extent and types of exterior artificial lighting devices and advertising devices.

No advertising devices or signage are proposed. Exterior security lighting fixtures are expected to properly serve the need for proper illumination of the campus, and specifically housing and parking areas. It is noted that this use is already present on-site. It is anticipated that the lighting system shown on the Site Plan approved by the Town Planning Board proved acceptable and appropriate after Town review. Lighting is downcast and shrouded and is the minimum necessary to achieve safety and security.

(6) Landscaping, screening and fencing.

Landscaping, fencing and screening were provided as part of the Site Plan review. It is anticipated that the fencing and landscaping features of the proposed project are in conformance with Town standards, as these are included in the Site Plan approved by the Town Planning Board.

(7) Probable extent of noise, vibration, smoke, dust or other adverse influence as compared to similar influences incident to unconditionally permitted uses in the district.



No significant new sources of noise, vibration, smoke or dust are associated with the proposed project. As the proposed project is an incremental increase in the existing level of activity of the site, and does not represent a significant change in the existing use of the site, no significant changes in the existing level or potential for noise, dust, vibration, etc. are anticipated. Housing facilities will improve convenience and potentially reduce commuter trips, and the location of housing is within the project site. Paving the gravel parking area has the potential to reduce the tire noise and dust, and will improve facilities, circulation, channelization and use of the lot.

1.4 Construction Phase and Site Operations

1.4.1 Construction Phase

Total Construction Period

As indicated in the EAF Part 1, it is anticipated that the entire construction period would last approximately 29 months. Because of the history of this project, the College has been unable to achieve this schedule. However, with the majority of construction already completed, the College estimates that 4 months are required to complete Building 3 and 8 months for Building 4. This would involve completion of the remaining 30% of interior improvements to Building 3 and 80% of Building 4, followed by installation of landscaping, lighting, sidewalks, etc.

Construction Schedule

Building 3 could be completed in three to four months. If a building permit for that building is received by March 1, 2003, the structure could then be completed by July 1 of that year. The College would then allow one month to test fire safety equipment. Following fire testing, the College would then furnish the building and allow residents to move in for the Fall 2003 semester. These students are already at the College, living at SUNY Farmingdale.

Once Building 3 is open, the College would then move over to Building 4, attempting to put a roof on before next winter. Construction should proceed through the winter, being completed by April or May of next year. Fire testing would then ensue, with the building being readied for the Fall 2004 semester.

Potential Future Development

The College has indicated that it has no present plans for any additional new structures (see Section 1.1.1).

Construction Staging Area

Construction staging is presently located within the construction area, in proximity to Buildings 3 and 4.

Air and Noise Impacts

As noted above, the majority of construction operations have been completed. However, the construction operations which produce air and noise impacts (clearing and grading) are



anticipated to have taken place during the initial 1-2 months. Therefore, the potential impacts associated with construction processes and activities have already been concluded for the proposed project. As a result, the remaining construction activities are expected to be relatively dust-free and quiet.

In general, the air quality impacts during construction arose from dust raised (primarily by truck movements and clearing/grading operations), and from emissions from trucks and construction equipment.

Clearing, grading and construction operations resulted in short-term, elevated levels of noise generated on the site. Heavy equipment operation may generate short-term noise in the range of 70-90 decibels (dBA). As related above, these activities are no longer being conducted. Thus, while noise levels generated during the early part of the construction phase may have been temporarily increased, the activities and operations that generate these impacts are for the most part no longer present.

Air and Noise Mitigation

If such occur during the remaining construction steps, dust and noise impacts associated with the remaining construction activities will be attenuated to levels less than or at most comparable to those which had occurred during the previous construction processes.

Dust control measures on a construction site are the result of the application of standard erosion-control measures such as: use of water sprays, groundcovers, drainage diversions and soil traps, as well as procedural measures including minimization of time span that bare soil is exposed to the elements and minimization of area cleared at any one time.

In regard to noise impacts from the remaining construction activities, the mechanisms for this attenuation include: distance, vegetation and presence of an intervening physical barrier (e.g., walls, buildings, etc.).

1.4.2 Site Operations

Property Ownership and Tax Status

The courts of this state have described an Industrial Development Authority (IDA) relationship as merely one of mortgagee. The Suffolk County IDA is merely the incidental owner of the property pursuant to a state sanctioned financing arrangement. The property was originally acquired from the Half Hollow Hills Central School District in 1992. The ten year tax abatements have been phasing out at the rate of 10% per year. The abatement actually began one year late (the college paid the full assessed value the first year). This last and final year of that initial abatement, the College expects to pay 90% of its full assessed tax rates. Next tax year the abatement will be gone and from that point forward the College will pay the full assessment on the main building and property.



The Living/Learning Center represents improvements to the real property. The improvements will receive a modified abatement. The College will pay 50% of the assessed value the first year. The abatement will be reduced 5% per year for ten years, when it will expire.

Future Plans

As addressed above, FTC has at present no plans for new buildings on its campus, although it has considered, for master planning purposes only, the possibility of a free-standing library at some point in the future. Such consideration was given only with respect to master site planning for the Living/Learning Center. There are no current plans to undertake a library improvement project.

Other Potential Uses of Dormitories

In regard to the possibility of other uses for the dormitory units, FTC will only use the Living/Learning Center for educational programs connected with its mission, goals and objectives, as authorized by the Absolute Charter issued by the New York State Board of Regents. By way of example, this would include the obvious - housing for matriculated students at the College, and educational conferences and retreats offered at the College in furtherance of its objectives (such as the three-day Leadership Huntington retreat held in June, 2002). Examples of events that would not be offered by FTC include summer camp sleep-away programs for children and innkeeper or boardinghouse operations for the general public.

Deliveries and Services to Site

Based on information provided by FTC, approximately five (5) truck deliveries are received at the College each weekday during regular business hours. Most of these deliveries occur in the morning. They usually consist of UPS, Federal Express, US Postal Service, food purveyors, and one miscellaneous truck. Miscellaneous trucks consist of electricians, plumbers, landscapers, and other service providers. In addition, garbage pickup is scheduled twice per week with one truck. FTC has not experienced any increase in the frequency of deliveries with the opening of the first two dormitories.

Trucks and other vehicles are not permitted in the Living/Learning Center at all, and FTC does not accept deliveries after regular business hours or on weekends.

1.5 Permits and Approvals Required

This Draft EIS is intended to provide the Town of Huntington ZBA with the information necessary to render a decision on the Five Towns College Living/Learning Center Special Use Permit application. As explained earlier, the Planning Board previously issued a Negative Declaration on the prior Site Plan application, which indicated that the project would not result in significant adverse impacts, approved the Site Plan application and issued building permits. Construction of the proposed project commenced in mid-August, 2000, but is presently on hold due to the NYS Appellate Court decision (see **Section 1.1.3**). As a result, the Town ZBA became an involved agency (and de facto lead agency, as all other permits were previously



issued by other agencies), as the decision determined that a Special Use Permit is required. As a result, a Special Use Permit application has been submitted to the ZBA, which, as Lead Agency, issued a Positive Declaration requiring the preparation of this document.

This document is intended to comply with SEQRA requirements as administered by the Town of Huntington ZBA. Once accepted, the document will be the subject of public review, followed by the preparation of a Final Environmental Impact Statement (FEIS) for any substantive comments on the DEIS. Upon completion of the FEIS, the ZBA will be responsible for the preparation of a Statement of Findings, which will form the basis for the final decision on the Special Use Permit application. **Table 1-2** lists all the permits and approvals required to implement the proposed project, a number of which have already been issued, as noted in the table and discussed previously in **Section 1.1**.

TABLE 1-2
PERMITS AND APPROVALS REQUIRED

Issuing Agency	Type of Permit/Approval
Town Planning Board	Site Plan Approval*
Town Zoning Board of Appeals	Special Use Permit
Town Department of Buildings	Building Permits*
Town Highway Department	Roadwork Permit*
Suffolk County Dept. of Health Services	Article 6 (Sanitary System design review)*
Suffolk County Dept. of Health Services	Article 4 (Water Supply System design review)*
Dix Hills Water Authority	Water Supply Connection*

* Issued for current project



SECTION 2.0

EXISTING CONDITIONS, POTENTIAL SIGNIFICANT IMPACTS AND MITIGATION MEASURES



2.0 EXISTING CONDITIONS, POTENTIAL SIGNIFICANT IMPACTS AND MITIGATION MEASURES

The Town Planning Board had reviewed the project description, discussion of potential significant impacts and presentation of mitigation measures when it reviewed the application; it was based upon this review that it issued its Negative Declaration (see **Appendix A-4**). This section describes and discusses the existing conditions of the site and area, the potential for significant impacts, and any mitigating factors, in detail and specific to the proposed project.

2.1 Geological Resources

2.1.1 Topography of Site and Vicinity

Existing Conditions

The subject area of the proposed project has been re-contoured in accordance with the **Grading and Drainage Plan** (in a folder at the rear of this document) in order to accommodate the foundations, footing, buildings and retaining features for the proposed project which have been totally or partially completed.

The topography of the subject area of the site consists of an elevated mound which predominantly trends from south to north with an average slope of approximately 8%. The highest elevation within the subject area of the site is approximately 205 feet above mean sea level (msl) located in the northwestern and northeastern corners of the subject property section and are the result of site grading operations. The lowest elevation is approximately 156 feet above msl located in the northwest section of the subject area and is comprised of a natural topographic feature which has not been disturbed by grading activities. Large portions of the development area have been leveled to accommodate Buildings 1 through 4, which have been constructed on the site. Retaining walls have been designed, reviewed, approved and constructed downslope (to the north and west) of these buildings, as well as between the buildings. The walls have enabled the construction of these buildings and associated services and amenities on proper slopes. The steepest slopes resulting from grading activities can be found between these structures and property lines immediately adjacent to them. These slopes range from approximately 5 to 25% and slope to the north, southeast and west.

Potential Significant Impacts

A **Grading and Drainage Plan** has been prepared to establish the grading limits and slopes for roads, and to examine the basic grading of building sites. Since all grading of the site has been completed to provide adequate surface areas for the nearly completed buildings no additional alterations to the surface contour of the property are anticipated. The Grading Plan effectively provided the design parameters for proper site construction and stabilization, as evidenced by the nearly completed project.



Mitigation Measures

Since all grading at the site has been completed in accordance with the development and grading plans, no further mitigation is required. Any mitigation measures required to control erosion will be discussed in greater detail in **Section 2.1.2**.

2.1.2 Erosion Control

Existing Conditions

The USDA Soil Survey of Suffolk County, New York provides a complete categorization, mapping and description of soil types found in Suffolk County. Soils are classified by similar characteristics and depositional history into soil series, which are in turn grouped into associations. These classifications are based on profiles of the surface soils down to the parent material, which is little changed by leaching or the action of plant roots. An understanding of soil character is important in environmental planning as it aids in determining vegetation type, slope, engineering properties and land use limitations. These descriptions are general, however, and soils can vary greatly within an area, particularly soils of glacial origin. The slope identifiers named in this subsection are generalized based upon regional soil types; the more detailed subsection on topography should be consulted for analysis of slope constraints.

The soil survey identifies the subject site as lying within an area characterized by Montauk-Haven-Riverhead association soils.

Montauk-Haven-Riverhead soils are deep, nearly level to strongly sloping, well-drained and moderately well-drained, moderately coarse textured and medium textured soils on moraines.

A total of five (5) soils have been identified on site; the development characteristics and locations of these soils are listed in **Table 2-1** and depicted in **Figure 2-1**.

Specific descriptions of the soils found on-site follow:

Carver and Plymouth sands, 15 to 35 percent slopes (CpE) - These soils are almost exclusively on moraines except for a few steep areas on side slopes along some of the more deeply cutting drainage channels on outwash plains. On morainic landforms these areas are large, and slopes generally are complex, especially on the Ronkonkoma moraine. Some areas are made up entirely of Carver sand, others entirely of Plymouth sand, and still others of a combination of the two soils. The hazard of erosion is moderate to severe on the soils in this unit. These soils are droughty, and natural fertility is low. Moderately steep to steep slopes are a limitation to use. Permeability is rapid throughout; natural fertility is very low. Limitations for development on these soils are severe for homesites, streets and parking lots due to slopes as well as severe for pipeline locations due to stability. Some of these areas within Suffolk County are used for homesites.



TABLE 2-1
SOIL LIMITATIONS

Parameter	CpE	MkB	MkC	MIB	MIC
Suitability as a Source of:	---	---	---	---	---
Topsoil	Poor: coarse texture		Good		NC
Fill material	Good: needs binder in places	Good: till contains suff. binders			NC
Soil Features Affecting:	---	---	---		---
Highway location	Poor trafficability; extensive cuts and fills likely	Possible seepage along top of till; extensive cuts and fills likely on MkC; non-uniform subgrade in places			NC
Embankment foundation	Strength generally adequate for high embankments; slight settlement; moderately steep to steep slopes	Strength adequate for high embankments			NC
Foundations for low buildings	Low compressibility; large settlement possible under vibratory load; moderately steep to steep slopes	Low compressibility; moderate slopes on MkC			NC
Irrigation	Very low available moisture capacity; rapid water intake; moderate and moderately steep to steep slopes	NC	NC		NC
Limitations for:	---	---	---	---	---
Sewage disposal fields	Severe: slopes	Severe: moderately slow permeability		Severe: moderately slow permeability in fragipan; slopes on M1C	
Streets and parking lots	Severe: slopes	Moderate: slopes	Severe: slopes	Moderate: slopes	Severe: slopes
Lawns, etc.	Severe: slopes; sandy surface layer	Slight	Moderate: slopes	Slight	Moderate: slopes
Paths and trails	Severe: slopes; sandy surface layer		Slight		Slight

NC - Not Classified; characteristics of these soils too variable to estimate.

Montauk silt loam, 3 to 8 percent slopes (MkB) - This gently sloping to undulating soil located on moraines. Soils in this series consist of deep, well drained to moderately well drained, moderately coarse textured to medium-textured soils that formed in the fine sandy loam or in the mantle of silt loam and loam. The hazard of erosion is moderate to slight. Limitations for development on these soils are slight for homesites and pipeline locations and moderate for streets and parking lots due to slopes. Most of these areas within the county are either idle or used for homesites.

Montauk silt loam, 8 to 15 percent slopes (MkC) - This soil is found on rolling moraines where kettle holes or closed depressions dot the landscape. Slopes are complex in many places. Soils in this series consist of deep, well drained to moderately well drained,, moderately coarse textured to medium-textured soils that formed in the fine sandy loam or in the mantle of silt loam and loam. Hazard of erosion is moderately severe. Limitations for development on these soils are moderate for homesites due to slopes, severe for streets and parking lots due to slopes and moderate for pipeline locations due to slopes. Many areas in the county are used for homesites.

Montauk soils, graded, 0 to 8 percent slopes (MIB) - This mapping unit consists of Montauk fine sandy loam, Montauk silt loam or both. These areas have been altered by grading and are used for housing developments, shopping centers, industrial parks or similar non-farm purposes. These soils are nearly level and gently sloping soils. These soils are suited to most grasses and shrubs commonly grown for lawns and landscaping. Areas that are very deeply cut or filled are droughty in some places and require irrigation.

Montauk soils, graded, 8 to 15 percent slopes (MIC) - This mapping unit consists of Montauk fine sandy loam, Montauk silt loam or both. These areas have been altered by grading and are used as building sites for homes. They are small and generally located along the complex side slopes of drainageways. The hazard of erosion is severe on these soils unless a cover of plants is established and these soils are suited to most grasses and shrubs commonly grown for lawns and landscaping. Areas that are very deeply cut or filled are generally droughty and natural fertility is low. These areas need irrigation water and heavy applications of lime and fertilizer. Slope and moderately slow permeability are the main factors that limit housing developments on this soil.

Potential Significant Impacts

All three of the soils on the property pose slight to severe limitations for development due to either slopes or stability. In addition, these soils also exhibit slight to severe hazards of erosion. However, none of the limiting factors of on-site soils presented above are anticipated to limit or hinder construction activities proposed for the site due to the mitigation measures to be discussed below. These soil characteristics generally do not influence contractor's ability to perform grading, excavation or building activities, and construction techniques typically involve conforming to properly-designed grading plans with appropriate use of retaining walls and slope stabilization. As noted above, many of the areas occupied by these soils are presently used for homesites within Suffolk County and have not hindered their development for this use. In addition, construction activities will be conducted in accordance with Town ordinances as they apply to site grading and excavations. Therefore, no impacts to soils related to construction are anticipated.



Mitigation Measures

The portions of the site still to be developed will be subject to grading operations to provide an acceptable surface on which development can take place which will be followed by installation of landscaping to provide a means of stabilizing the soil to prevent erosion as soon as practicable following grading.

Erosion preventive measures to be taken during construction activities have included: groundcovers (vegetative or artificial), drainage diversions, soil traps, minimizing the area of soil exposed to erosive elements at one time, and minimizing the time span that soil is exposed to erosive elements. Physical measures installed as part of the construction consist of retaining walls and the lower levels of building structures have been built into sloped areas to add additional support to soils on the property. Applicable Town of Huntington standards and construction practices specified by the appropriate Town agencies will be followed.

2.2 Transportation

Volume 2 contains the Traffic Impact Study (TIS) prepared by RMS Engineering (of Huntington, New York) for the proposed project. The information presented in this section is taken from that report.

The following intersections were studied for the TIS:

- Bagatelle Road at the Long Island Expressway (LIE) North Service Road (NSR)
- Bagatelle Road at the LIE South Service Road (SSR)
- Bagatelle Road at Half Hollow Road
- Half Hollow Road at Burr's Lane
- Half Hollow Road at Vanderbilt Parkway (CR 67)
- Burr's Lane at North Site Access Driveway
- Burr's Lane at South Site Access Driveway
- Burr's Lane at LIE NSR

2.2.1 Traffic Services

Existing Conditions

The current conditions for the above-referenced roadways within the study area are summarized below:

LIE NSR/SSR: These are east-west service roads to a principal artery under the jurisdiction of the New York State Department of Transportation (NYSDOT). It consists of two through lanes in each direction. All of the turning lanes are shared. The posted speed limit is 40 mph. Along the site frontage on the North Service Road, there is currently no entrance to the subject property.



Bagatelle Road: This is a north-south major collector under the jurisdiction of the Town of Huntington. The roadway contains one wide through lane in each direction, with turning lanes provided at the intersections studied. The posted speed limit is 30 mph.

Half Hollow Road: This is an east-west major collector under the jurisdiction of the Town of Huntington. It consists of one travel lane in each direction. There are turning lanes provided at the intersections of Bagatelle Road and CR 67. The posted speed limit is 30 mph.

Vanderbilt Parkway (CR 67): This is a north-south (in the vicinity of the site) minor arterial under the jurisdiction of the Suffolk County Department of Public Works (SCDPW). Half Hollow Road is the western terminus for CR 67. In the vicinity of the site, it contains one lane for northbound traffic and two lanes for southbound traffic. The posted speed limit is 30 mph.

Burr's Lane: This is a north-south roadway under the jurisdiction of the Town of Huntington. It contains one wide lane in the vicinity of the site. The posted speed limit in the vicinity of the site is 30 mph.

The current traffic control conditions for the intersections listed above are summarized below:

- Bagatelle Road at LIE NSR/SSR: These are signalized intersections controlled by a three-phase controller.
- Bagatelle Road at Half Hollow Road: This is a signalized intersection controlled by a two-phase controller.
- Half Hollow Road at Burr's Lane: This is an unsignalized intersection with stop control on Burr's Lane.
- Half Hollow Road at Vanderbilt Parkway (CR 67): This is a signalized intersection controlled by a two-phase controller.
- Burr's Lane at North Site Access Driveway: This is an unsignalized intersection with a stop control located at the site access driveway.
- Burr's Lane at South Site Access Driveway: This is an unsignalized intersection with a stop control located at the site access driveway.
- Burr's Lane at LIE NSR: This is an unsignalized intersection with a stop control on Burr's Lane.

At present, there are 537 parking spaces on the FTC campus, as 374 spaces in marked stalls on paved surfaces, and 163 more spaces on the gravel overflow parking area at the southerly border of the existing parking lot. As two of the dormitory structures are incomplete and unoccupied, the minimum number of parking spaces required by the Town is 260; when the construction program is completed and these two buildings are occupied, the parking requirement will be increased to 330 spaces. The site currently contains sufficient spaces to satisfy both parking requirements.

Potential Significant Impacts

Based on the capacity analyses presented in **Section 2.2.2**, no significant impacts to the intersections studied are anticipated as a result of the proposed project. As the site will provide a



number of parking spaces well in excess of the Town-required minimum number of spaces, no impacts from parking are anticipated.

Mitigation Measures

As no impacts to the area roadways or intersections are anticipated, no mitigation measures are necessary or proposed.

2.2.2 Traffic Levels

Existing Conditions

Traffic volumes were determined from field counts collected in May 2002, while Five Towns College was in the Spring 2002 session (see **Table 2-2**). These existing traffic volumes, in conjunction with the intersection geometry, and signal timings/phasing, where applicable, were used to determine the existing capacity and Level of Service (LOS) of the study intersections. Capacity analyses to compute the intersection LOS were performed for both existing and future conditions. The capacity analyses performed by RMS were conducted in accordance with guidelines set forth in the **2000 Highway Capacity Manual (Special Report 209)** published by the Transportation Research Board.

TABLE 2-2
TRIP GENERATION
Existing Conditions

Peak Hour Analyzed	"College" or "Commuter"	Entering Trips (vph)	Exiting Trips (vph)	Total Trips (vph)
AM Peak Hour	College	160	56	216
	Commuter	131	14	145
PM Peak Hour	College	58	148	206
	Commuter	30	72	102
Saturday Peak Hour	Commuter	21	18	39

In preparation of the analysis for this project, it was determined that there are distinct peak traffic hours in the vicinity of the site, those belonging to the traditional commuter travel times and those associated with the college. Since the commuter peak hours do not necessarily coincide with the peak hours of the college, RMS analyzed the commuter and college peak hours separately for the purpose of the TIS. In the TIS, RMS termed the commuter peak hour, "Commuter" peak and the peak hour associated with the college the "College" peak. On Saturday, RMS only analyzed the "Commuter" peak, as there is not a substantial amount of weekend traffic generated at Five Town College during the Saturday time period studied.

The results of the analysis for the signalized intersections are presented in **Table 2-3**. The analyses indicate that many of the signalized intersections are currently operating at an overall



acceptable LOS during the peak hours surveyed. However, at the intersection of Bagatelle Road at LIE NSR, the intersection is operating at capacity during the AM “Commuter” peak hour. This time period corresponds with the morning westbound commute. In addition, at the intersection of Bagatelle Road at LIE SSR, the intersection is operating above capacity during the PM “Commuter” peak hour. This time period corresponds with the afternoon eastbound commute.

Upon a review of the values contained in **Table 2-3**, it can be seen that during the peak hours surveyed, the unsignalized intersections and site access driveways are operating at an acceptable LOS.

TABLE 2-3a
LEVEL OF SERVICE SUMMARY - Existing Conditions
Signalized Intersections

Intersection	Condition	AM Peak Hour		PM Peak Hour		Saturday Peak Hr	
		Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
LIE SSR @ Bagatelle Rd.	Commuter	40.2	D	96.3	F	16.2	B
	College	17.5	B	24.0	C	N/A	N/A
LIE NSR @ Bagatelle Rd.	Commuter	61.5	E	17.2	B	15.2	B
	College	16.6	B	16.8	B	N/A	N/A
Half Hollow Rd. @ Bagatelle Rd.	Commuter	27.3	C	13.0	B	13.5	B
	College	13.0	B	12.3	B	N/A	N/A
Half Hollow Rd. @ CR 67	Commuter	16.7	B	25.8	C	16.0	B
	College	16.6	B	17.1	B	N/A	N/A

TABLE 2-3b
LEVEL OF SERVICE SUMMARY - Existing Conditions
Unsignalized Intersections

Intersection	Condition	AM Peak Hour			PM Peak Hour			Saturday Peak Hour		
		Movement	LOS	Delay (sec/veh)	Movement	LOS	Delay (sec/veh)	Movement	LOS	Delay (sec/veh)
Half Hollow Road @ Burrs Lane	Commuter	EB	B	11.2	EB	A	7.9	EB	A	8.0
		WB	A	8	WB	A	9.1	WB	A	7.8
		NB	C	22.7	NB	C	16.3	NB	B	12.2
		SB	D	28.1	N/A	N/A	N/A	SB	B	11.3
Burrs Lane @ North Site Access	College	EB	A	8.0	EB	A	8.1	N/A	N/A	N/A
		WB	A	8.2	WB	A	8.7	N/A	N/A	N/A
		NB	B	12.4	NB	B	14.8	N/A	N/A	N/A
		SBLT	A	7.3	SBLT	A	7.3	SBLT	A	7.3
Burrs Lane @ South Site Access	College	WB	A	8.9	WB	A	9.0	WB	A	8.7
		SBLT	A	7.3	SBLT	A	7.3	N/A	N/A	N/A
		WB	A	9.1	WB	A	9.6	N/A	N/A	N/A
		SBLT	A	7.5	SBLT	A	7.3	SBLT	A	7.2
Burrs Lane @ LIE NSR	College	EB	B	10.3	WB	A	8.9	WB	A	8.4
		SBLT	A	7.5	SBLT	A	7.4	N/A	N/A	N/A
		WB	B	10.9	WB	A	9.2	N/A	N/A	N/A
		SBR	C	18.0	SBR	A	10.0	SBR	N/A	N/A
		SBR	A	10.0	SBR	B	10.4	SBR	N/A	N/A

(1) The capacity of a signalized intersection is evaluated in terms of the ratio of demand flow rate to capacity (V/C ratio). The capacity is defined for each approach and measures the maximum rate of flow (for the subject approach), which may pass through the intersection under prevailing traffic, roadway and signalization conditions. The LOS of a signalized intersection is evaluated on the basis of average stopped delay measured in seconds per vehicle (sec/veh). A more detailed definition of LOS is provided in **Volume 2, Appendix B**.

(2) The capacity of an unsignalized intersection is based on two factors. The first factor is the distribution of gaps in the major street traffic. The second factor is drive judgment in selecting gaps through which to execute their desired maneuver. Refer to **Volume 2, Appendix B** for further definition of LOS for an unsignalized intersection.

Potential Significant Impacts

RMS conducted a detailed investigation of the potential traffic impacts of the existing/proposed dormitories on the surrounding street system. The TIS reviewed existing roadway and traffic conditions in the area and estimated the volume and pattern of traffic generated by the proposed project. The potential effect of additional traffic on the surrounding roadway network was also analyzed and evaluated.

There are three conditions analyzed: Existing, "No Build" and "Build". The existing condition analyzed the existing conditions of the roadways and intersections. The "No Build" condition analyzes the future condition of the roadways and intersections assuming that the proposed project is not constructed. The "Build" condition analyses considered the potential impact of the traffic generated by the construction of the residential halls. Therefore, there will be four future scenarios studied: "Commuter No Build", "Commuter Build", "College No Build" and "College Build". These four conditions will be analyzed during the weekday AM and PM peak hours, while there will only be a "Commuter" peak hour analyzed on Saturday.

An ambient traffic growth rate factor of 1.00% per year, supplied by the NYSDOT, was applied to the existing (2002) intersection volumes during each peak hour for projection to year 2004 background levels, constituting the "No Build" condition. In addition, the traffic generated by other planned/proposed projects in the vicinity of the site was included in this condition. Based upon discussions with representatives of the Town of Huntington Planning Department, it was revealed that there are three significant planned/proposed projects in the vicinity of the site. The traffic generated by these projects is contained in **Volume 2, Appendix C**. A brief description is as follows:

- The Greens at Half Hollow Hills, a multiuse development consisting of 73 Single Family Homes, 100 Low Income Senior Housing Units, 1,150 Senior Housing Units and an 18 hole Golf Course with a clubhouse, located to the west of the site, north of Half Hollow Road and Old South Path and to the west of Carman Road. The property is also known as the Long Island Developmental Center (LIDC).
- 47 Single Family Homes, located on Old East Neck Road, south of the Long Island Expressway, west and south of the proposed site.
- 10 Single Family Homes, located on Half Hollow Road, south of the Long Island Expressway, west and south of the proposed site.

Based upon discussions with representatives of NYSDOT and the Town of Huntington, it was determined that there are no roadway improvement projects planned for the vicinity of the site.

As part of this investigation, an estimate of the quantity of traffic generated by the development of the subject property was prepared. There are no corresponding Land Use Codes contained within the **Institute of Transportation Engineers (ITE) Trip Generation Manual, 6th Edition, 1997** and the **ITE Trip Generation Handbook, October 1998** that would properly estimate the trips generated by the four (4) residential halls, or 208 beds. In EAF Parts II and III, prepared by Nelson & Pope, LLP, it was assumed that 52 trips would be generated by the



proposed facility at full capacity. The Director of Engineering Services for the Town of Huntington deemed this assumption reasonable.

However, at the present time, there are two residence halls occupied. As per discussions with FTC, it was discovered that 40 students out of 104 resident students have vehicles parked on campus. These vehicles are already included in the traffic generated by the college. Therefore, it is assumed that the total number of students to have vehicles parked on campus at full occupancy is 80, an increase of 40 from the current number.

In order to be conservative, for the purposes of this report, RMS assumed that 26 vehicles of the possible 40 vehicles (65%) would enter and exit the college during each peak hour. However, it is known and understood that this estimate is conservative because students will be walking to and from their classes, not driving. In fact, the vehicles from the student living in the dormitories will already be parked in the parking lot for Five Towns College.

The anticipated traffic generation for the proposed project is summarized in **Table 2-4**. In addition, the Dean of Administration has indicated that the student enrollment of Five Towns College is not expected to increase after the completion of the third dormitory, and only minimally after the fourth. Enrollment will stabilize with an additional 104 people living on campus. Therefore, there will be 104 fewer students driving to and from Five Towns College during the week for classes and during nights and weekends for social and educational activities. Therefore, the trips generated by the college will decrease upon completion of the project. In order to be conservative, the decrease in trips generated was not credited to the existing volumes.

TABLE 2-4
TRIP GENERATION
Existing and Proposed Conditions

Peak Hour	Type	Existing Conditions		Proposed Expansion (tph)
		Commuter (tph)	College (tph)	
AM Peak Hour	Enter	131	160	26
	Exit	14	56	26
	Total	145	216	52
PM Peak Hour	Enter	30	58	26
	Exit	72	148	26
	Total	102	206	52
Saturday Peak Hour	Enter	21	N/A	26
	Exit	18	N/A	26
	Total	39	N/A	52

N/A – Not Applicable

tph – trips per hour

*Trips generated are regardless of peak hour scenario

A review of the results contained in **Table 2-5** indicates that traffic generated by the proposal will have an imperceptible impact upon the signalized study intersections contained within the study area under the proposed project (termed “Burr’s Lane Access” in the TIS). Upon the introduction of site-generated traffic, there is little or no impact upon the signalized intersections.

A review of the results contained in **Table 2-5** indicates that traffic generated by the proposal will have an imperceptible impact upon the unsignalized study intersection and site driveways under the proposed project (termed “Burr’s Lane Access” in the TIS). Similar to the signalized intersection, the site generated traffic has practically no effect upon the operation of the study intersections or site driveways.

Therefore, by the granting of the approval to construct the proposed residential halls and the legalization of the current residential halls, as required from the Town of Huntington, will not create any severe adverse traffic conditions or hazard in the vicinity or the site.

Mitigation Measures

As the proposed project will have only an imperceptible impact upon the operation of the signalized and unsignalized intersections and driveways, no roadway or traffic control mitigation is required or proposed.

2.2.3 Public Transportation

Existing Conditions

The TIS indicates the following in regard to public transportation in the vicinity:

Suffolk County Transit Bus Line S-23 stops at the campus of Five Towns College. The S-23 line travels between Walt Whitman Mall and Babylon Railroad Station. Between the two ending points of the bus line, there are transfers available to 10 other bus lines. According to InterCounty Coach Lines, the operator of the S-23 line, the bus line averages 274 riders per day. The operator was unable to determine the number of daily riders that begin or end their trip at Five Towns College. However, there are 25 stops per day at Five Towns College along with 25 stops at 8 other locations. FTC representatives estimate that approximately 30 to 75 students and faculty utilize mass transit to access the campus during each weekday.

The New York State Department of Transportation (NYSDOT) and the New York Metropolitan Transportation Council have been undergoing a study on Long Island known as LITP2000. The purpose of LITP2000 is to manage congestion and form a transportation plan for the next 20 years on Long Island. According to information presented on the LITP2000 website, there are no current plans for any specific roadway improvements in the vicinity of Five Towns College. However, according to the website, there are proposed Rapid Commute Vehicle stops and Passenger Transfer Stations on the Long Island Expressway at Exits 49 (New York State Route 110) and Exit 51 (New York State Route 231), both stops within a few miles of the campus. Those stops may afford patrons of the college an alternative means of transportation in the future.



TABLE 2-5a
LEVEL OF SERVICE SUMMARY - No Build and Build Conditions
Signalized Intersections

Intersection	Condition	AM Peak Hour		PM Peak Hour		Saturday Peak Hr	
		Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
LIE SSR @ Bagatelle Rd.	Commuter No Build	43.5	D	108.3	F	16.5	B
	College No Build	17.6	B	25.8	C	N/A	N/A
	Commuter Build	44.1	D	108.2	F	16.5	B
	College Build	17.6	B	26.0	C	N/A	N/A
LIE NSR @ Bagatelle Rd.	Commuter No Build	74.1	E	17.7	B	16.1	B
	College No Build	17.0	B	17.3	B	N/A	N/A
	Commuter Build	75.8	E	17.8	B	16.1	B
	College Build	17.1	B	17.3	B	N/A	N/A
Half Hollow Rd. @ Bagatelle Rd.	Commuter No Build	30.9	C	13.4	B	13.9	B
	College No Build	13.0	B	12.7	B	N/A	N/A
	Commuter Build	31.4	C	13.6	B	13.9	B
	College Build	13.1	B	12.8	B	N/A	N/A
Half Hollow Rd. @ CR 67	Commuter No Build	16.9	B	29.8	C	16.4	B
	College No Build	16.8	B	17.7	B	N/A	N/A
	Commuter Build	17.0	B	30.6	C	16.4	B
	College Build	16.9	B	17.9	B	N/A	N/A

TABLE 2-5b
LEVEL OF SERVICE SUMMARY - No Build and Build Conditions
Unsignalized Intersections

Intersection	Condition	Movement	AM Peak Hour		PM Peak Hour		Sat. Peak Hour	
			LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)
Half Hollow Road @ Burrs Lane	Commuter No Build	EB	B	11.4	A	8.0	A	8.0
		WB	A	8.0	A	9.2	A	8.0
		NB	D	25.4	C	17.2	B	13.2
		SB	D	33.1	N/A	N/A	B	12.2
	Commuter Build	EB	B	11.4	A	8.0	A	8.0
		WB	A	8.1	A	9.3	A	8.0
		NB	D	27.7	C	18.0	B	13.6
		SB	D	34.3	N/A	N/A	B	12.4
	College No Build	EB	A	8.0	A	8.1	N/A	N/A
		WB	A	8.3	A	8.7	N/A	N/A
		NB	B	12.7	C	15.6	N/A	N/A
	College Build	EB	A	8.0	A	8.1	N/A	N/A
		WB	A	8.3	A	8.8	N/A	N/A
		NB	B	13.1	C	16.2	N/A	N/A
Burrs Lane @ North Site Access	Commuter No Build	SBLT	A	7.3	A	7.3	A	7.3
		WB	A	8.9	A	9.0	A	8.9
	Commuter Build	SBLT	A	7.3	A	7.3	A	7.3
		WB	A	9.1	A	9.3	A	9.1
	College No Build	SBLT	A	7.3	A	7.3	N/A	N/A
		WB	A	9.2	A	9.6	N/A	N/A
Burrs Lane @ South Site Access	College Build	SBLT	A	7.3	A	7.4	N/A	N/A
		WB	A	9.3	A	9.8	N/A	N/A
	Commuter No Build	SBLT	A	7.5	A	7.3	A	7.3
		EB	B	10.4	A	9.2	A	9.2
	Commuter Build	SBLT	A	7.6	A	7.4	A	7.4
		WB	B	10.9	A	9.5	A	9.5
Burrs Lane @ LIE NSR	College No Build	SBLT	A	7.5	A	7.4	N/A	N/A
		WB	B	11.0	A	9.5	N/A	N/A
	College Build	SBLT	A	7.6	A	7.5	N/A	N/A
		WB	B	11.7	A	9.9	N/A	N/A
	Commuter No Build	SBR	C	10.8	B	10.5	B	10.0
	Commuter Build	SBR	C	19.6	B	10.7	B	10.2
	College No Build	SBR	B	10.1	B	10.0	N/A	N/A
	College Build	SBR	B	10.3	B	11.1	N/A	N/A

Potential Significant Impacts

Based on the above discussion regarding use of public bus route 23 to the campus, it is not anticipated that the proposed project will significantly increase or decrease use of this form of transit. Implementation of the proposed Rapid Commute Vehicle stops and Passenger Transfer Stations on the LIE in the vicinity may tend to increase use of the bus route between these locations and FTC.

Mitigation Measures

As no significant impacts to public transit are anticipated from the proposed project, no mitigation measures are necessary or proposed.

2.3 Land Use and Zoning

2.3.1 Land Use of Site and Vicinity

Existing Conditions

The subject site is presently a developed college campus, of which the northwestern corner is a construction area where two of four dormitory structures are completed and occupied, and the two remaining structures were under construction. As shown in **Figure 2-2**, adjacent areas and properties in the vicinity are dominated by detached single-family homes of one and two-story construction on ½ to 1 acre lots. There are no commercial uses in the immediate vicinity of the proposed project. As listed in **Table 2-6**, land uses in all directions from the site are predominantly residential in nature, though the major regional transportation artery abuts the site's southern border. In addition, other institutional uses are found nearby, to the southwest and west (school district bus yard), the northwest (Sagamore Children's Psychiatric Center), northeast (Half Hollow Hills East High School), east (Manasquan School) and south (Chestnut Hill Elementary School and Madonna Heights Residential School)).

Admin Buildings

**TABLE 2-6
LAND USE PATTERN**

Direction	Land Uses in Direction, Abutting Site	Land Uses in Direction, Not Abutting Site
North	Residential, Utility	Residential
Northeast	Residential	Residential, Institutional
East	Residential	Residential, Institutional
Southeast	Residential, Transportation	Residential, Utility
South	Transportation	Residential, Institutional
Southwest	Institutional, Transportation	Residential
West	Institutional	Residential
Northwest	Residential, Commercial	Residential, Institutional, Utility

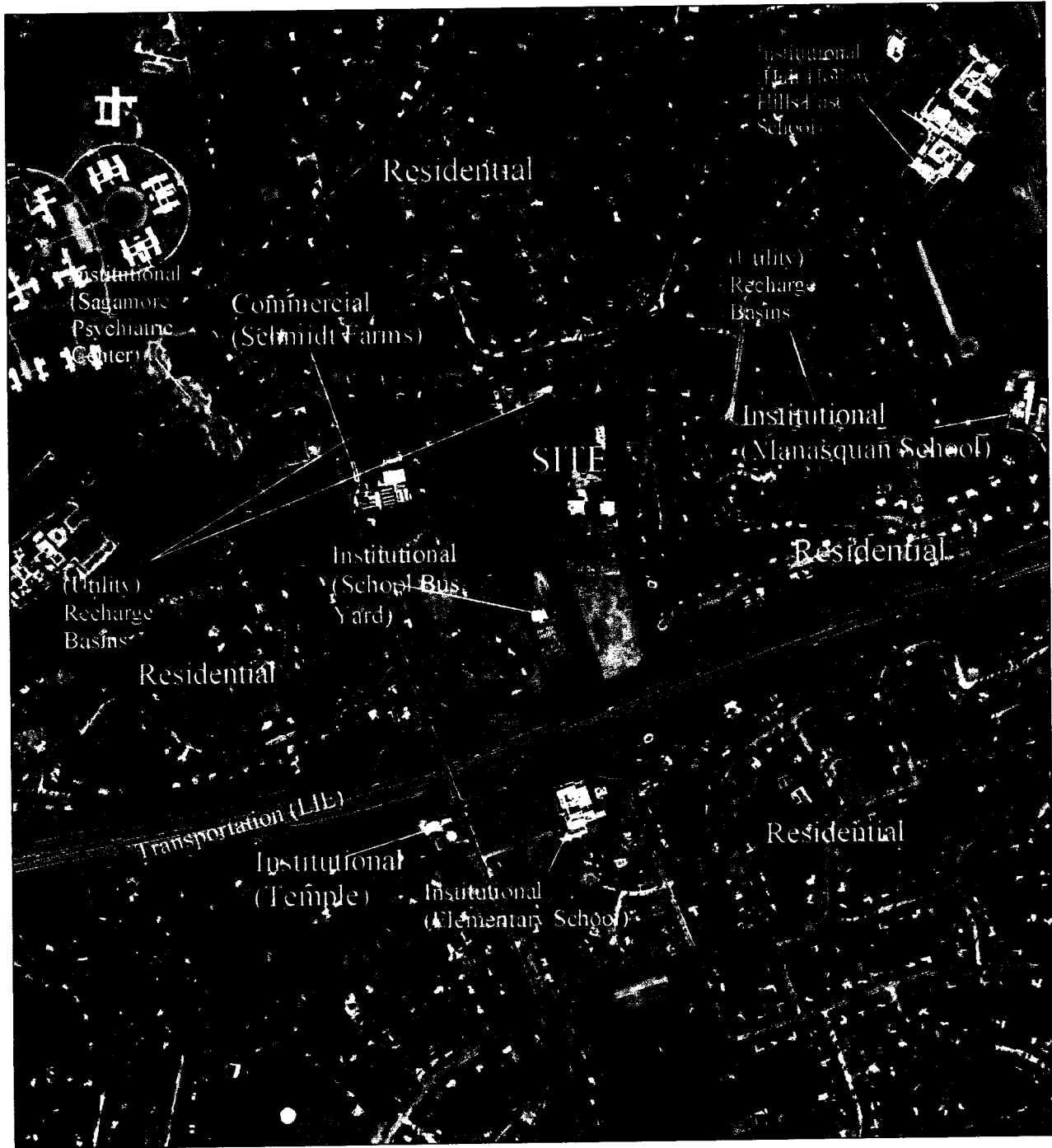


Figure 2-2
LAND USE MAP



FIGURE 2-2

LAND USE MAP



Source: GeoMaps Aerial Photography 1999
Scale: 1" = 1200'



Potential Significant Impacts

As the project site is already in use as a college campus, and the project represents an incremental increase in this use (that is, there will be no change in the use of the site, only in the level of intensity of that use), there will be no change in the level of conformity of this use to the predominant residential use pattern (with interspersed institutional uses) in the vicinity. More specifically, it is noted that three institutional uses are already present in the vicinity, which match that of the proposed project. The proposed expansion of the FTC campus will continue the compatibility of this use with that of the surrounding community, in that this incremental increase, coupled with the absence of any change in the land use of the subject site or the pattern in the vicinity, does not present any factor which could lead to a change in the existing compatibility of these uses. In addition, and as will be discussed in more detail in **Section 2.3.2**, institutional uses, and specifically school uses, are allowable within residential zoning districts.

As shown in **Figure 1-3**, the distance between the new buildings and the nearest residence (opposite the northern portion of the project site, at the northwestern corner of FTC) is approximately 250 feet. It should be noted that there are only 5 residences within approximately 400 feet of the project area. This minimizes the potential for adverse impacts to these potential receptors. In addition, these setbacks are occupied by vegetation on the FTC property, as well as by Half Hollow Road and Burrs Lane, which contribute to the level of land use impact.

As there are no commercial sites in the immediate vicinity, impacts to or from such a land use will not occur either from the proposed project or to these uses. It is not anticipated that the incremental increase in the intensity of FTC operations will materially increase the potential for commercial uses to locate into the area, particularly as appropriate zoning is not in place for such a use, and the residential nature of the area (in combination with the relatively low level of traffic in the roads in the area) would not be attractive to potential tenants.

Mitigation Measures

As the use of the proposed project will not impact the land use pattern of the vicinity, no mitigation measures in this regard are necessary or proposed, other than conformance with all applicable standards of the Town Code and the design measures already approved by the Town Planning Board in its Site Plan approval.

2.3.2 Zoning of Site and Vicinity

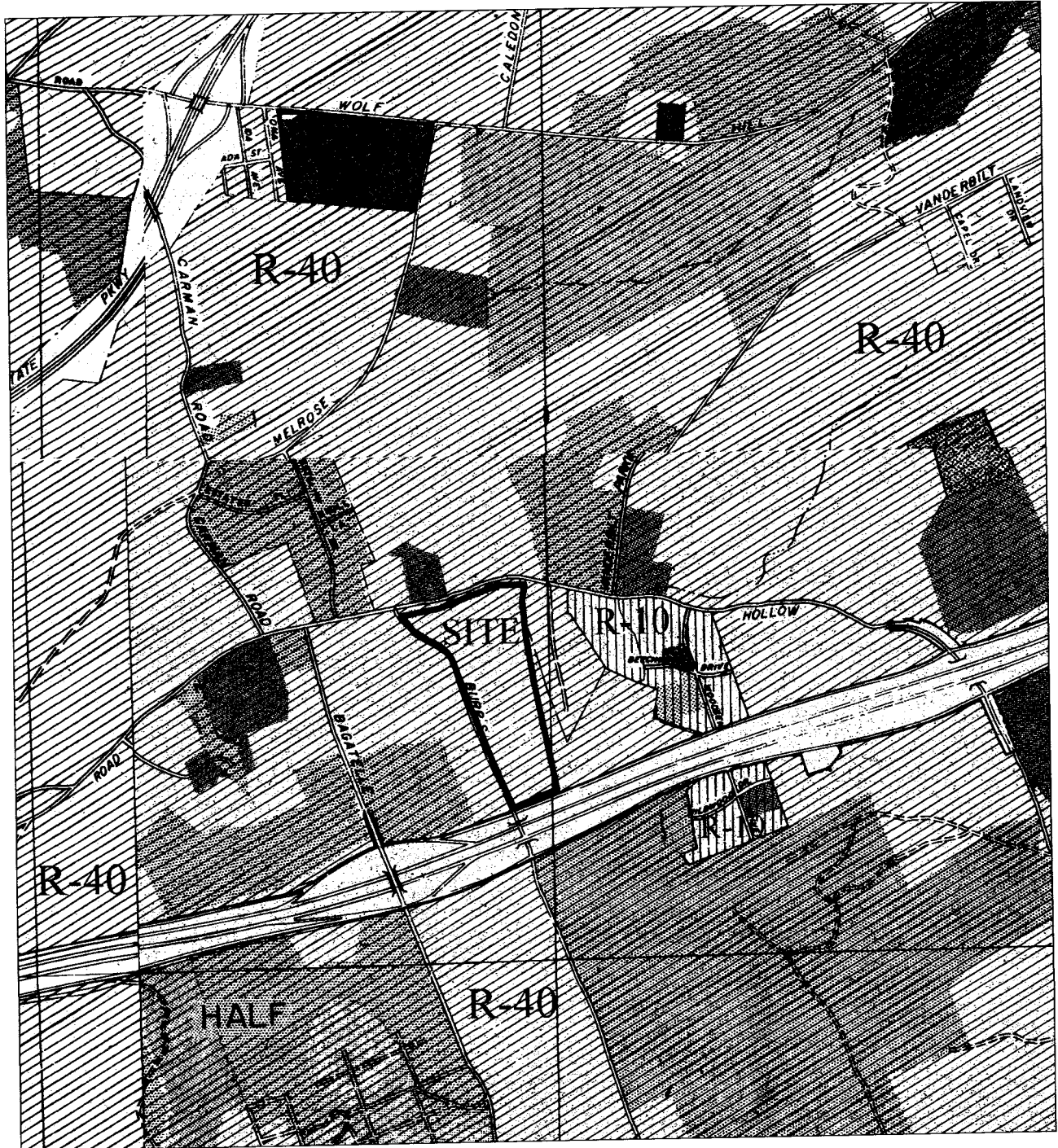
Existing Conditions

The subject site is presently zoned R-40 (Residence) by the Town of Huntington. As shown in **Figure 2-3**, all adjacent areas and all properties in the vicinity are dominated by this classification, except for a small area of I-1 (Light Industry) zone on Wolf Hill Road, about 0.75 miles to the north of the subject site (this latter site was developed with one-acre lots about 8 years ago). Town Code Chapter 198-13(A)(5) specifically states that colleges are allowed as-of-right in the R-40 zoning district.



FIGURE 2-3

ZONING MAP



Source: Town of Huntington Zoning Map
Scale: 1" = 1500'



Figure 2-3
ZONING MAP



Potential Significant Impacts

As the proposed dormitory construction project will not change the existing zoning of the site, and represents implementation of a Conditional Use for the R-40 zone, the proposed project will not impact the zoning pattern of the area. In this sense, no impact to zoning is anticipated.

Table 2-7 presents a listing of the applicable requirements of the R-40 zone in regard to bulk requirements, setbacks, etc. As can be seen the proposed project will conform to all such requirements. As a result, no impacts to adherence to the Town Zoning Code are anticipated.

TABLE 2-7
ZONING REQUIREMENTS CONFORMANCE - R-40 Zone

Zoning Requirement/Parameter	Standard	Proposed Project
Maximum Building Height	2 stories/35 feet	2 stories/30 feet
Minimum Front Yard Depth	50 feet	120 feet
Minimum Rear Yard Depth	50 feet	50 feet
Minimum Lot Area	1 acre	33.60 acres
Minimum Lot Frontage	40 feet	3,440 feet

Mitigation Measures

As no impact to the zoning of the site, the zoning pattern in the vicinity or the conformance of the project to the Town Code are anticipated, no mitigation is necessary or proposed.

2.4 Open Space

Existing Conditions

The Town of Huntington Open Space Index, prepared in 1974 (the "Index") is intended to aid in the preservation and conservation of open lands in the Town that promote a sense of natural or rural spaciousness. Index parcel SE-22 occupies 17.6 acres of land on the east side of Burrs Lane, north of the LIE; the subject site is located approximately 1,000 feet to the northwest of this feature. As indicated in the EAF Part 3 prepared by the Town for the proposed project, Index parcel SE-22 has been developed with single-family homes and a NYS recharge basin. The descriptor listed for this parcel justifying its designation is "*Woodland, forest, second-growth woodland*". The parcels listed in the Index are given a "priority" designation, based upon the perceived need to preserve the parcel. The Index indicates a priority of "4" for Parcel #SE-22. For Priority 4, the Index states:

These are properties which include some segment worthy of preservation although the property as a whole is only of average interest for ecological review. The action to be recommended in these cases is expected to focus on the impact of the development on the specific segments of the property worthy of preservation.



Potential Significant Impacts

Implementation of the proposed project would not result in a significant level of impact on Index parcel SE-22 since that site is developed, and its ecological value has already been seriously compromised. In addition, it is anticipated that the ecological value of the natural vegetation retained on-site (represented by the area in the northwestern corner of the property) for off-site open spaces is minimal, due to the proximity of campus activities, traffic on Half Hollow Road, and the steep slopes in this area.

Mitigation Measures

As the proposed project does not represent a significant impact on the open space value of Index parcel SE-22, no mitigation is necessary or proposed.

2.5 Groundwater

Existing Conditions

Groundwater on Long Island is derived from precipitation. Precipitation entering the soils in the form of recharge passes through the unsaturated zone to a level below which all strata are saturated. This level is referred to as the water table. In general, the groundwater table coincides with sea level on the north and south shores of Long Island, and rises in elevation toward the center of the Island. The high point of the parabola is referred to as the groundwater divide. Differences in groundwater elevation create a hydraulic gradient which causes groundwater to flow perpendicular to the contours of equal elevation, or generally toward the north and south shores from the middle of the Island. Near the shore, water entering the system tends to flow horizontally in a shallow flow system through the Upper Glacial Aquifer to be discharged from subsurface systems into streams or marine surface waters as subsurface outflow. Water that enters the system further inland generally flows vertically to deeper aquifers before flowing toward the shores.

The major water-bearing units beneath the subject site include the Upper Glacial aquifer, the Magothy aquifer, and the Lloyd aquifer. The top altitude of the Upper Glacial aquifer is equal to the topographic elevation of the property which ranges from 156 to 205 feet above msl and ranges in thickness from 206 to 255 feet. The top of the Magothy aquifer is approximately 50 feet below msl and exhibits an approximate thickness of 600 feet. The Lloyd aquifer is 800 feet below msl and exhibits a thickness of 350 feet. Bedrock is present at a depth of about 1,175 feet below msl.

Groundwater is encountered at an approximate elevation of 70 feet above msl. The topographic elevation of the site ranges from 156 feet to 205 feet above msl resulting in a depth to water ranging from 86 feet to 135 feet below ground surface (bgs). Regionally, groundwater is observed to flow in a southwesterly direction. The regional groundwater flow direction can be found as based on groundwater contours presented in **Figure 2-4**.



The Long Island Regional Planning Board, in conjunction with other agencies, prepared a management plan for Long Island groundwater resources in 1978 under a program funded by Section 208 of the 1972 Federal Water Pollution Control Act Amendments. The purpose of the 208 Study was to investigate waste disposal options and best practice for ground and surface water protection. The study delineated Hydrogeologic Zones for the formulation of management plans based on groundwater flow patterns and quality. The subject site is located in Groundwater Management Zone I, and is characterized as a deep flow groundwater system which provides recharge to potable groundwater supply.

Several sources of information were investigated in order to characterize the existing groundwater quality in the vicinity of the site. The Suffolk County Comprehensive Water Resources Management Plan (SCCWRMP) provides general information concerning groundwater quality in Suffolk County based upon file review at the time of preparation of the study, which was released in 1987. More specific water quality data was obtained from the Suffolk County Water Authority (SCWA) for the nearest public supply well field in the area of the site. The following paragraphs summarize water quality information available from these sources.

The Suffolk County Comprehensive Water Resources Management Plan provides information on water quality from 0 to 100 feet below the water table based on observation wells as well as public and private water supply and well monitoring. With respect to nitrate-nitrogen at a depth into the aquifer of between 0 and 100 feet, the Plan shows the subject site as lying within a "good" area in terms of water quality (1 to 6 mg/l of nitrogen). Insufficient nitrate-nitrogen concentration information is available for depths of 100 to 400 feet beneath the site to draw conclusions regarding water quality at this zone beneath the site. The Plan also provides information regarding concentrations of Volatile Organic Compounds (VOC's) in groundwater. Groundwater quality in the vicinity of the site is also "good" (less than 60% of applicable guidelines), although there are detectable levels of some compounds at a depth of 0 to 100 feet. Insufficient water quality information is available from the area of the site for water at a depth of 100 to 400 feet to draw conclusions regarding water quality in this zone. VOC's are synthetic organic compounds such as degreasers, oil additives, solvents and pesticides. They are typically introduced to groundwater through chemical manufacturing, dry cleaning, fuel spills, agricultural practices and improper disposal of both household and industrial wastes.

Stormwater, as runoff, can be the vehicle by which pollutants move across land and through the soil to groundwater or surface waters. Contaminants accumulate or are disposed of on land and improved surfaces. Some sources of contaminants include:

- animal wastes
- highway deicing materials
- decay products of vegetation and animal matter
- fertilizers
- pesticides
- air-borne contaminants deposited by gravity, wind or rainfall



- general urban refuse
- by-products of industry and urban development
- improper storage and disposal of toxic and hazardous material

In 1982, the Long Island Regional Planning Board (LIRPB) prepared the L.I. Segment of the Nationwide Urban Runoff Program (NURP Study). This program attempted to address, among other things, the following:

- the actual proportion of the total pollutant loading that can be attributed to stormwater runoff, given the presence of other point and non-point sources and conditions within the receiving waters;

The purpose of the NURP Study, carried out by the LIRPB., was to determine:

- the source, type, quantity, and fate of pollutants in stormwater runoff routed to recharge basins, and
- the extent to which these pollutants are, or are not attenuated as they percolate through the unsaturated zone.

In order to accomplish this, five recharge basins, located in areas with distinct land use types, were selected for intensive monitoring during and immediately following storm events. Five recharge basins, three in Nassau and two in Suffolk, were chosen for the study on the basis of type of land use from which they receive stormwater runoff. The following is a listing and description of each drainage area:

<u>Site Location</u>	<u>Land Use</u>
Centereach	Strip Commercial
Huntington	Shopping Mall, Parking Lot
Laurel Hollow	Low Density Residential (1 acre zoning)
Plainview	Major Highway
Syosset	Medium Density Residential (1/4 acre zoning)

Based on the sampling program, the NURP Study reached the following relevant findings and conclusions:

Finding: Stormwater runoff concentrations of most of the inorganic chemical constituents for which analyses were performed were generally low. In most cases, they fell within the permissible ranges for potable water; however, there were two notable exceptions:

- median lead concentrations in stormwater runoff samples collected at the recharge basin draining a major highway (Plainview) consistently exceeded the drinking water standards;
- chloride concentrations in stormwater runoff samples generally increase two orders of magnitude during the winter months.



Conclusion: In general, with the exception of lead and chloride, the concentrations of inorganic chemicals measured in stormwater runoff do not have the potential to adversely affect groundwater quality.

Finding: The number of coliform and fecal streptococcal indicator bacteria in stormwater range from 10^0 MPN to 10^{10} MPN per acre per inch of precipitation.

Conclusion: Coliform and fecal streptococcal indicator bacteria are removed from stormwater as it infiltrates through the soil.

The land uses included in the NURP report that is most like the proposed use would be medium density residential (Syosset). The NURP study results for this land use type are shown in **Table 2-8**.

TABLE 2-8
STORMWATER IMPACTS FROM LAND USE
NURP STUDY

Parameter	Medium Density Res.	Standard
Spec. Cond (umhos)	104	[n]
PH	5.1	6.5-8.5
Turbidity (NTU)	26	5
Hardness (mg/l)	16.5	[n]
Calcium (mg/l)	4.85	[n]
Magnesium (mg/l)	1.2	[n]
Sodium (mg/l)	4.25	[n]
Potassium (mg/l)	1.0	[n]
Sulfate (mg/l)	7.05	250
Fluoride (mg/l)	0.10	1.5
Chloride (mg/l)	7.3	250
Nitrogen-Total (mg/l)	2.55	10
Phosphorus (mg/l)	0.01	[n]
Cadmium (ug/l)	2.5	10
Chromium (ug/l)	1.0	50
Lead (ug/l)	6.0	50
Arsenic (ug/l)	0.0	25
Coliform (MPN)	13	[n]
Coliform, fecal	3	[n]

Source: Koppelman, 1982, p. 26-29

[n] - no standard for parameter

None of the parameters examined within the NURP study exceeded standards for the reported constituents at the site, with the exception of turbidity at the strip commercial and pH at the shopping mall. As expected, slightly elevated levels of heavy metals were detected; however, their concentrations were significantly reduced through attenuation and did not exceed standards.

The NURP Study found that chloride concentrations in stormwater generally increase by two orders of magnitude during the winter months. Chloride is not attenuated in soils like lead and

chromium, and thus it is anticipated that the amount of chloride contributed to groundwater will be correlated with the amount of salt applied to roadways and parking areas within the stormwater drainage area, during winter months.

Groundwater flows generally perpendicular to the lines of equal water table elevation as a result of this hydraulic gradient. Therefore, as the project site is located to the north of a regional groundwater divide, water recharged on the project site will generally flow toward the north.

The project site is currently predominantly cleared with limited impermeable surface area and has not withdrawn water from the underlying aquifer since cessation of the driving range use. In addition, recharge that occurs on the site is derived from regional precipitation.

The groundwater budget for an area is expressed in the hydrologic budget equation, which states that recharge equals precipitation minus evapotranspiration plus overland runoff. This indicates that not all rain falling on the land is recharged. Loss in recharge is represented by the sum of evapotranspiration and overland runoff. The equation for this concept is expressed as follows:

$$R = P - (E + Q)$$

where: **R** = recharge
 P = precipitation
 E = evapotranspiration
 Q = overland runoff

Nelson, Pope & Voorhis, LLC (NP&V) has utilized a microcomputer model developed for its exclusive use in predicting both the water budget of a site and the concentration of nitrogen in recharge. The model, named **SONIR** (Simulation Of Nitrogen In Recharge), utilizes a mass-balance concept to determine the nitrogen concentration in recharge. Critical in the determination of nitrogen concentration is a detailed analysis of the various components of the hydrologic water budget, including recharge, precipitation, evapotranspiration and overland runoff.

The **SONIR** model includes four sheets of computations: 1) Data Input Field; 2) Site Recharge Computations; 3) Site Nitrogen Budget; and 4) Final Computations. All information required by the model is input in Sheet 1. Sheets 2 and 3 utilize data from Sheet 1 to compute the Site Recharge and the Site Nitrogen Budget. Sheet 4 utilizes the total values from Sheets 2 and 3 to perform the final Nitrogen in Recharge computations. Sheet 4 also includes tabulations of all conversion factors utilized in the model.

We believe that our simulations provide reliable estimates of nitrogen recharge for this site. As with any simulations, however, it should be noted that the simulation is only as accurate as the data which is input into the model and the applicability of the hydrogeologic principles from which the data may have been derived. Further principles of environmental science and engineering are applied in determining nitrogen sources, application and discharge rates, degradation and losses, and final recharge. Users must use reasonable assumptions in order to



ensure justifiable results. There are a number of variables, values and assumptions concerning hydrologic principles, which are discussed in detail in a user manual developed for the SONIR Model and provided in **Appendix C-1**.

The model was run to obtain the existing water budget and nitrogen concentration in recharge. The run was based on existing site conditions and land use coverages which includes 10.75 acres of natural area, 12.63 acres of landscaped area, 1.34 acres of gravel parking area and 8.88 acres of impervious surface area. These conditions at the site result in a total site recharge of 28.76 million gallons per year (MG/Y), with a total nitrogen concentration of 5.77 milligrams per liter (mg/l). The results of this analysis are presented in **Appendix C-2**.

Potential Significant Impacts

Identical to the existing condition, the only discharges to groundwater related to the proposed use of the site will consist of sanitary effluent and storm water recharge. Completion of the project will involve incrementally increased water use for the facility, which will be approximately equal to the sanitary effluent discharged. The potential impacts of these changes are discussed in this section.

Article 6 of the Suffolk County Sanitary Code allows up to 600 gpd/acre for sanitary flow in Groundwater Management Zone I, when using a conventional on-site wastewater system. For wastewater flows in excess of this level, sewage treatment is required. Therefore, as the proposed project includes a conventional septic tank/leaching pool system, development on the project site is anticipated to generate up to 20,160 gpd of sanitary wastewater. The proposed project will be served by a septic tank/leaching pool system and will be within the prescribed allowable flow. Suffolk County Department of Health Services has established density limitations and design and construction standards for best management practices to protect groundwater resources of Suffolk County.

As this wastewater system will be designed, installed and constructed in conformance with SCDHS requirements, no impacts to groundwater resources are anticipated from wastewater discharge. There is adequate depth to groundwater (102-139 feet) to allow for the proper installation and functioning of sanitary systems. Additional consideration of water quality and recharge is provided below.

Using the site coverage quantities established in **Table 1-1**, the SONIR model was run to determine the proposed water budget resulting from recharge. Under the completed development the project site will recharge a total of 31.53 MGY resulting in an increase of 2.77 MGY. The results of this analysis are presented in **Appendix C-3**. This increase in recharge is the result of an increase in sanitary discharge. This increase is not expected to cause a significant adverse impact since the depth to groundwater beneath the site ranges from 86 to 135 feet below ground surface (bgs) and will not result in groundwater mounding or flooding-related concerns.

Groundwater impacts which may occur during construction activities could potentially result from building materials and equipment stored on-site. As noted in **Section 1.4.1** building



materials are anticipated to be inert and therefore are not expected to have an adverse impact on groundwater quality at the site. Equipment stored on-site will be properly maintained and will be operated by reputable contractors over a portion of the overall construction period. Construction activities will only occur over a 9 to 12 month time frame and as a result no significant or long-term construction impacts to groundwater quality are anticipated.

The operation at the proposed facility will not mix, package or generate any toxic/hazardous industrial chemicals or solvents. No discharge permit is needed for other than sanitary effluent. Likewise, no Article 12 permit is needed from SCDHS for drum or tank storage.

A total of 26.33 inches of stormwater are anticipated to be recharged annually on the site, which represents 76.2% of all recharge water generated on the property. However, based upon information presented in the NURP Study (see **Section 2.2.3**), this volume is not anticipated to contain significant concentrations of pollutants. The project will use recommended recharge techniques involving subsurface leaching pools. The NURP Study found that any organic chemicals that may be present in storm water generally volatilize on surfaces and inorganic chemicals and bacteriological indicators are removed as recharge infiltrates through soil. As noted, the depth to groundwater ranges from 86 to 135 feet providing a substantial unsaturated zone for leaching and attenuation. Therefore, the proposed project is in conformance with the applicable recommendations of the NURP Study in regard to the proposed stormwater recharge system.

Utilizing the same mass balance model described in **Section 2.2.3**, the water balance and concentration of nitrogen in recharge was calculated for the proposed project. **Table 1-1** provides a tabulation of existing and proposed site conditions. These coverages were used in the SONIR model to obtain the results described herein

Based on the site quantities presented in **Table 1-1** the SONIR computer model results for the proposed project (**Appendix C-3**) indicate that a total of 31.53 MG/yr of water will be recharged on the site. Analysis of the computer model results indicate that 76.2% of total site recharge under proposed conditions would result from precipitation, with 0.4% resulting from irrigation and the remaining 23.3% resulting from sanitary discharges. This anticipated recharge volume represents 34.56 inches of water distributed annually over the 33.60-acre site.

The concentration of total nitrogen in this recharge is anticipated to be increased by the proposed project, due primarily to the presence of nitrogen in wastewater. Specifically, overall nitrogen concentration will be increased to 8.51 mg/l. This is less than the 10-mg/l nitrogen standard for drinking water. This is based on the assumption that only a portion of landscaped areas will be fertilized since a majority of the site containing landscape vegetation consists of ball fields. Specifically, wastewater will account for 96.1% of nitrogen in the recharge on-site. In addition, other recharge sources which contribute to nitrogen concentrations include: existing water supply nitrogen which will account for 2.7%, stormwater which will account for 0.1%, fertilization which will account for 1.1% and irrigation which will account for a negligible amount.



The project site will utilize public water, to be supplied by the Dix Hills Water District through a distribution network in the area surrounding the site. The potable water requirement of the project, 20,150 gpd, is not anticipated to impact the ability of the Dix Hills Water District to serve the public in the vicinity.

Mitigation Measures

The proposed project consists of four dormitory buildings for FTC; therefore no toxic or hazardous chemicals are anticipated to be present or utilized on the site. Consequently, no impact to groundwater quality is anticipated from this source.

The proposed development of the site will utilize individual on-site sewerage systems for disposal of sanitary wastes. The overall nitrogen concentration in recharge of 8.51 mg/l will result from irrigation, stormwater runoff and sanitary discharges. The anticipated concentration is less than the NYSDEC drinking water standard of 10 mg/l and therefore, the proposed project is not expected to result in significant adverse effects to groundwater quality with regard to nitrogen loading.

SONIR computer model results for the proposed project indicate that a total of 31.53 MG/yr of water will be recharged on the site. In conformance with the Town requirements, all stormwater runoff generated on developed surfaces will be retained on-site, to be recharged to groundwater in proposed stormwater catchbasins and leaching pools.

Where applicable, construction will utilize water-saving plumbing fixtures and systems.

2.6 Community Character

2.6.1 Cultural Resources

Existing Conditions

Appendices D-1 to D-3 contain the Cultural Resources Assessments (CRA's) undertaken for the proposed project. In summary, these documents state:

In prehistoric times, bands of native Americans exploited the region around the Half Hollow Hills, which were known as Squaw Pit by the Secatogues. Later the general region was known by this name. Subsequently, the locals began to call the region around the hills formed into a half-hollow - Half Hollow Hills. In earlier times local streams and creeks probably intersected a higher ground water table that permitted stream water to flow more copiously than at the present. The level grounds bordering the creeks may have been suitable for native American encampments, while the surrounding forests and cleared areas must have provided a source of fuel, building materials, vegetable foods, mast and game animals.

European colonists settled the general region late in the 18th century, at which time the more fertile low-lying lands were selected and cleared for farming and pasture. The gravelly nature and steeper slopes of the study area and its interior location well away from major early road

systems may have protected it from exploitation during this early period. The general region to the north of Half Hollow Hills was settled and cleared for agriculture and was a well-established community by the first third of the 19th century. The Nostran family apparently settled on land just to the north of the subject property sometime prior to 1837. Afterward, prior to the 1870's the Ketchum family occupied a farm just to the west of the Nostran place. The subject property may have been originally part of the Nostran parcel. At this time the subject parcel, with soils too coarse for crops and too steep to plow, was probably used as pasture for sheep, cattle, or horse grazing.

In the latter part of the 19th century, many farms in the region were abandoned. Places formerly used as cropland or as pasture for cattle were permitted to return to forest. Land prices plummeted during this period. Entrepreneurs were attracted to the area to purchase tracts of less desirable agricultural or forested land for subdivision and speculation. In the 1930's and 40's many others of similar intent constructed homes and bungalows along existing roadways in the region. During World War II years, farmers were exempt from the draft and agricultural products were in high demand. It was a good time to develop a farm. Around the 1940's the Peaceful Valley Farm was established on the north side of Half Hollow Road north of the subject property. The region continued to develop as a desirable residential area alongside existing farms and woodlots. During this period the subject property—being abandoned as pasture land early in the century—continued to reforest. Early in the 20th century a plantation of White Pine (*Pinus alba*) was established on the northern section of the parcel. A residence was sited on the parcel in the first half of the present century (20th). Sometime after 1947 the residence was burned, razed or moved from the site. During this period, just after WWII, the region experienced a boom in residential construction. Families arrived in the region and the school age population expanded.

Sometime between 1954 and 1967 the Burrs Lane Junior High School was built on the site at a time when the student population of the region was at its highest, probably around 1958. However, in two decades the region experienced a decline in student population and was faced with excess schoolroom spaces. The Burrs Lane Junior High School was leased or sold to the Five Towns College Corporation [in 1992].

CONCLUSIONS

There are several known prehistoric sites in the immediate general area as well as historic houses or historic-era sites nearby. There are evidences of an early 20th century residence on the site. However, the standing buildings on-site have no historical, architectural or cultural interest. Further study is necessary to evaluate the potential for recovery of significant prehistoric evidences.

RECOMMENDATIONS

Prior to any soil disturbance, or alteration by construction activity, a subsurface survey of the property should be made to assess further the recovery of prehistoric evidences. ASI [Archaeological Services, Inc.] recommends a NYSAA standard Stage IB study of the site to assess prehistoric potential.

CONCLUSIONS

A systematic surface survey and methodological subsurface study, and a protocol that included the excavation and analysis of twenty-nine (29) subsurface tests within the proposed impact area revealed no significant cultural evidences. Cultural materials such as bottle glass, a teacup shard,



wood charcoal, coal and coal cinders, are all attributable to recent human activities on the knoll such as picnics and minor disposal events. Other historic materials recovered on the surface and subsurface were all attributable to past dumping activity. No further study is warranted.

Potential Significant Impacts

As the CRA's undertaken for the proposed project do not indicate the presence of cultural resources on-site or in proximity to the site, no impacts to such resources are anticipated.

Mitigation Measures

As no impacts to cultural resources are expected, no mitigation measures are necessary or proposed.

2.6.2 Air Quality and Noise Conditions

Existing Conditions

As shown in **Figure 1-3**, the portion of the FTC campus on which the proposed project is located adjacent to residential use across Half Hollow Road and Burrs Lane. The construction area is a minimum of approximately 250 feet from the nearest receptor to the north, and approximately 300 feet from the nearest residence to the west. In addition to these significant setbacks, there is a wooded buffer within the project site that serves to reduce potential air and noise impacts from operation of the facility (potential air and noise impacts from construction activities are addressed in **Section 1.4.1**). Half Hollow Road is a two-lane artery used by residential commuters and trucks that access higher-capacity roadways to the east, west and south. Smaller trucks (e.g., garbage trucks, delivery trucks/vans, etc.) present on errands typically associated with residential use also utilize this roadway. The North Service Road of the LIE, bordering the project site, carries significant amounts of traffic, particularly during the AM peak hour.

The ambient air and noise environment in the vicinity of the project site is typical for a suburban mixed-use area that includes residential, institutional and commercial uses in proximity to a major regional roadway. During daytime hours, car and truck traffic related to the existing activities in the area is the major source of impact to the air and noise environment of the area. Other uses which generate air and noise impacts in the area include outdoor residential uses (lawn mowers, leaf blowers, etc). The FTC campus does not include activities or operations which would generate significant noises or air emissions which would be an impact receptors either on-site or on adjacent properties, particularly in consideration of the mitigative factors discussed above.

Potential Significant Impacts

The proposed project is an incremental increase in the existing level of activity of the site, and does not represent a significant change in the existing use of the site; therefore, no significant changes in the existing level or potential for air and/or noise impacts are anticipated. There will be no significant increases in the amounts of air pollution arising from equipment operations following completion of the construction phase, as no activities which produce such pollutants



are or will be located on the site. As the proposed project is anticipated to incrementally reduce total vehicle trips to and from the site (see **Section 2.2**), this would represent an incremental decrease in the amount of pollutants generated. In summary, as no significant amounts of pollutants are expected to be generated, no significant air quality impacts are anticipated.

Mitigation Measures

The absence of activities associated with the college campus which could result in significant air or noise emissions is the primary mitigation measure. The housing facilities will improve student convenience and potentially reduce commuter trips, as a portion of the student population will be housed on-site, and therefore will not commute to or from the property. Paving the gravel parking area has the potential to reduce the tire noise and dust, and will improve facilities, circulation and use of the lot.

2.7 Community Resources

2.7.1 Fiscal Conditions

Existing Conditions

As discussed in **Section 1.4.2**, the Suffolk County IDA is the mortgagee of the FTC property. The site was purchased from the Half Hollow Hills Central School District in 1992, and operates under a 10-year tax abatement program, which will be completed after the 2002 payment period. After that point, FTC will pay taxes based on 100% of the assessment of the classroom building and property.

As indicated by FTC, it is estimated that approximately half of the taxes paid by FTC are allocated to the half Hollow Hills Central School District, while the College does not generate any school-age children or an associated financial burden upon the district.

Potential Significant Impacts

There will be an increase in the amount of property taxes paid to the various taxing jurisdictions due to the proposed expansion program. Specifically, as the proposed project represents improvements to the property, a modified tax abatement program has been established, for which FTC will initially pay taxes based on 50% of the assessed value of the improvements, increasing by 5% annually over a ten year period. At the completion of this period, the improvements and remainder of the campus will both pay taxes based on 100% of their assessed values.

It is not anticipated that the proposed expansion program will result in any impact on property values in the vicinity, as the FTC campus has been present for a number of years without such an impact. The proposed project represents an incremental increase in the intensity of an existing use, not an entirely new use in an area dominated by an incompatible use.



Mitigation Measures

The increase in taxes paid by FTC due to the proposed project will mitigate the incremental increase in the cost of services imposed on the public services which serve the site. It should be noted that these services are already being expended on the FTC site; the proposed project represents only an incremental increase in the level (and cost) of these services, and not an entirely new location requiring such service.

2.7.2 Safety and Security

Existing Conditions

The following information in regard to security and safety procedures and facilities was prepared by FTC:

The College maintains a safe campus environment, and has always provided appropriate public safety staff. It's crime and data statistics are published annually in accordance with Federal regulations. The Public Safety Office is open and appropriately staffed whenever students are in residence. Public Safety Officers patrol the campus 24 hours a day, seven days per week. The College has three shifts: 8AM to 4PM, 4PM to 12 Midnight, and 12 Midnight to 8AM.

The Living/Learning Center site will be fully fenced, with a single point of access at the southern entrance to the Center. The Living/Learning Center was designed this way to funnel all pedestrian traffic away from the northern border of the College at Half Hollow Road, and to allow the College to restrict non-residents from the Center.

Students are not permitted to park near the Living/Learning Center. Only 9 parking spaces near the southern entrance to the Living/Learning Center were constructed for use by professional staff and students with mobility impairments. All other vehicles must be parked in the main lot located south of the main building. Currently, the College only permits students with sophomore standing or higher to keep a car on campus. When all four buildings are completed, the College anticipates that only students with Junior standing or higher will be permitted to keep a car on campus.

All four dormitories have state-of-the-art electronic access control systems which are operated by photo identification cards. These access cards must be used to access the Living/Learning Center quad at the single access point- gate, and to unlock the front door of each building. Each dormitory also has an office and front desk in the vestibule, which is staffed every evening from approximately 7PM until 1AM. Residents must show their I.D. card to enter.

A member of the College's professional staff resides in each dormitory with the students. This staff member's room is strategically located on the second floor center lobby. There are four Resident Assistants assigned to each building, one on each wing of each floor of each building.

All rooms are equipped with telephone service, which connects to the Public Safety Office with emergency 2911 service. Each building is equipped with burglar, fire, smoke and carbon monoxide detection systems.



All residents are required to participate in a mandatory board plan. Cooking appliances, including hot plates and toaster ovens are prohibited.

To minimize ambient noise, "quiet" building materials and designs were utilized. This includes double hung window and central air conditioning systems (to encourage students to keep their windows closed).

Potential Significant Impacts

The existing FTC security patrol will expand its operations to include surveillance of the new buildings. It is anticipated that resident assistants will inhabit each new building, providing trained supervision of residents and the campus.

Mitigation Measures

It is anticipated that the existing campus security system (including cameras, lighting and foot patrols) will be expanded to include the new buildings. In addition, safety and fire/smoke alarms will be installed throughout the new buildings, as required by NYS law and prudent design considerations.



SECTION 3.0

POTENTIAL FUTURE EXPANSION



3.0 POTENTIAL FUTURE EXPANSION

3.1 Expansion Plans

The College expects its student body to develop in accordance with the enrollment figures previously supplied [Section 1.1.1]. Future campus improvements, if any, would be implemented merely in response to these student population changes and program improvements; it is not proposed to increase student enrollment so that campus improvements become necessary.

3.2 Changes in Curriculum as Related to Dormitory Population Changes

It should be noted that the curriculum of FTC is not a function of the place of residency of its students, whether resident or commuter. That is, the student population changes as a result of the curriculum and degree programs available at the school, not the other way around. Therefore, no change in the school's curriculum is expected as a result of the proposed project, except that all residential students participate in the Living/Learning program.

3.3 Changes in Curriculum as Related to Non-Dormitory Population Changes

As noted in Section 3.2 above, the curriculum policy of FTC is not based upon the location of residency of its students. Therefore, also discussed above, the school's curriculum will not be changed as a result of the proposed project.

3.4 Potential for Future Library Construction

In the process of planning for the Living/Learning Center the College tried to consider what the campus might look like in perpetuity. This evaluation was necessary in order to insure that the Living/Learning Center was located in a part of the campus that considered various adjacencies, made practical sense, and which considered "potential" future uses of the campus. Responsible planning requires such an analysis.

While the College was planning for the Living/Learning Center, the only other use that appeared possible at some indefinite time in the future was an improvement to the existing library. To that end, the College tentatively designated an appropriate part of the campus where a library might be constructed, which at that time was contemplated. The College did not then and does not now anticipate the addition of a new free-standing library building.

It should be noted that during the planning process for the Living/Learning Center, the issue of a new library was only considered for the existing student population and was never considered as



a way to increase the student population. In addition, the design of the Living/Learning Center is not mutually dependent upon a library addition, and the advent of new electronic information technologies continues to reduce the possibility that a new library will be considered at any time in the foreseeable future.

Following its establishment in 1972 with 8,000 volumes the Five Towns College Library grew consistently and by 1992 consisted of 23,000 volumes. Library holdings continued to grow, peaking in 1996 (the year planning for the Living/Learning Center was begun) at 28,000 volumes. Five years later, in 2002, the number of volumes in the Five Town College Library has actually decreased to 22,854, a collection which is smaller than when the College opened in Dix Hills in 1992. In contrast, the number of computers on-campus has literally exploded from 24 in 1992 to over 250 today. This figure does not take into account the number of privately owned desktop and laptop computers brought to campus each day by students and faculty. It should be noted that the College is currently served by an all- fiber-optic NT network which provides high speed access to the internet over a T-3 connection. Computer ports are located throughout the campus. There are two ports in every dorm room. Clearly, the advent of new electronic libraries and on-line academic research engines, particularly their availability in dormitory rooms and homes, continues to reduce the need for traditional libraries in single locations in higher education.

In regard to additional proposed FTC improvements, new uses for the campus anticipated by the College include the addition of an elevator for Harmony Hall (Building 2) to provide better access for disabled students, paving of the remaining section of gravel parking at the campus, and modification of approximately 2,000 SF to improve the maintenance/receiving area of the main college building. None of these improvements will have a corresponding increase in student enrollment or intensify use of the College campus.

Online education is another recent development affecting intensity of use. In 1996, when planning for the Living/Learning Center was in process, the Internet or World Wide Web was in its infancy. Today the Internet continues to have profound impacts on all sectors of the global economy. In no segment of the economy has the affect of this recent innovation been greater than in the area of distance or "on-line" education.

Prior to the Internet, distance learning was essentially correspondence school – classes offered through the U.S. Mail. Today, nearly every college and university maintains an on-line presence, and offers distance-learning courses over the Internet. Five Towns College is no different. While a full-time student normally takes between 12 and 15 credit hours of instruction on-campus, since 1998 the number of Five Towns College students taking courses over the Internet has exploded.

Five Towns College currently permits its full-time students to register for up to six (6) credits of on-line instruction each semester. During the Spring 2002 semester, Five Towns College students registered for a total of 1,089 credit hours of online instruction, which resulted in a full-time student equivalency of 91 students. This trend is expected to continue indefinitely.



3.5 Changes in Non-Dormitory Population with Respect to Board of Health Requirements for Dormitories

As discussed in **Section 2.5**, the SCDHS would allow up to 20,160 gpd of sanitary wastewater to be generated on the site with the use of septic tank/leaching pool systems for wastewater treatment. As the existing campus presently generates an estimated 12,505 gpd of sanitary wastewater, there would remain 7,655 gpd of flow available, to be utilized by the remainder of the proposed project. As specified by the Suffolk County Sanitary Code (SCSC), each of the 104 anticipated dormitory students would generate 75 gpd of wastewater, and each commuter student and/or faculty member generates 5 gpd. Thus, after completion of the proposed project and the anticipated increase in resident students, decrease in commuter students and increase in faculty, the FTC campus will generate a total of 20,150 gpd of sanitary wastewater, leaving 10 gpd of flow allowance, to be utilized by any additional building expansion or enrollment increase (see **Table 3-1**).

**TABLE 3-1
WASTEWATER SYSTEM USAGES**

Existing system usage	104 residents @ 75 gpd each	7,800 gpd	12,505 gpd
	859 commuters @ 5 gpd each	4,295 gpd	
	82 faculty @ 5 gpd each	410 gpd	
Increased resident students	104 @ 75 gpd each	7,800 gpd	+7,800 gpd
Decreased commuter students	51 @ 5 gpd each	255 gpd	-255 gpd
Increased faculty	20 @ 5 gpd each	100 gpd	+100 gpd
Proposed system usage	---	---	20,150 gpd

As the SCSC allots 5 gpd for each non-residential student, there would be capacity for an additional 2 commuter students, and no capability to accommodate any additional dormitory students.



SECTION 4.0

ALTERNATIVES



4.0 ALTERNATIVES

SEQRA requires the investigation of reasonable alternatives to a proposed action in order to determine the merits of the project as compared to other possible uses on the subject site, in consideration of the goals and capabilities of the applicant as well as realistic circumstances of the situation. The discussion and analysis of each alternative should be conducted at a level of detail sufficient to allow for the comparison of various impact categories by the decision-making agencies. Alternative 1 is the “No Action” alternative, which is required by SEQRA, and is intended to represent the existing conditions of the site maintained in their current status and condition, in order to provide for comparisons of impacts among the proposed project and all alternatives.

Due to the unique circumstances of the project (see **Section 1.1**), and in consideration of the present physical condition of the site (wherein construction has been put on hold well into the construction period), the required No Action alternative is assumed to include the two completed and occupied dormitories, and completion of Building 3 (see **Section 4.1**). It is not realistic to assume that the construction program is kept on hold as a base assumption for this alternative, in consideration of the safety aspects that such an assumption would entail. In addition, FTC has already expended a significant amount of money in construction and development costs, which have legitimately been spent on construction to date. Finally, staffing and food service requirements would be affected, as such are dependant upon the numbers and types of students.

Following are the three alternatives determined by the lead agency to merit consideration:

Alternative 1 - assumes that the three buildings which are presently completed and occupied (designated #1 and #2) or substantially completed (#3, approximately 70% completed) are utilized as the proposed Living/Learning Center. The fourth building (#4 and about 20% completed) is demolished.

Alternative 2 - assumes that the proposed action is completed, with a new vehicle access provided to the North Service Road of the LIE, while all access to the parking lot from Burrs Lane is closed.

Alternative 3 - assumes that only three of the proposed dormitory structures are utilized for a Living/Learning Center; the fourth building (presently about 20% completed) would be utilized for classroom space.

Table 4-1 presents a quantitative listing of relevant site and development characteristics for these alternatives, along with those of the proposed action and existing conditions.

4.1 **Alternative 1: No Action**

As discussed above, this alternative assumes that the construction program is completed, with the exception that the fourth building of the Living/Learning Center (presently approximately 20% completed) is demolished, leaving the three remaining buildings (two occupied and a third nearly



**TABLE 4-1
COMPARISON OF ALTERNATIVES**

Parameter	Existing Conditions	Proposed Action	Alternative 1: No Action	Alternative 2: Additional Access	Alternative 3: Reduced Scale
Use	Main Bldg./classrms. & admin. Bldgs. 1-4/32-36 units*	Main Bldg./classrms. & admin. Bldgs. 1-4/32-36 units	Main Bldg./classrms. & admin. Bldgs. 1-3/32-36 units	Main Bldg./classrms. & admin. Bldgs. 1-4/32-36 units	Main Bldg./classrms. & admin. Bldg. 1-3/32-36 units
Yield	Main Bldg./120,000 SF Bldg. 1/17,022 SF Bldg. 2/17,020 SF Bldg. 3/18,110 SF* Bldg. 4/189,110 SF*	Main Bldg./120,000 SF Bldg. 1/17,022 SF Bldg. 2/17,020 SF Bldg. 3/18,110 SF Bldg. 4/18,110 SF	Main Bldg./120,000 SF Bldg. 1/17,022 SF Bldg. 2/17,020 SF Bldg. 3/18,110 SF	Main Bldg./120,000 SF Bldg. 1/17,022 SF Bldg. 2/17,020 SF Bldg. 3/18,110 SF Bldg. 4/18,110 SF	Main Bldg./120,000 SF Bldg. 1/17,022 SF Bldg. 2/17,020 SF Bldg. 3/18,110 SF Bldg. 4/18,110 SF
Total Floor Area	190,262 SF	190,262 SF	172,152 SF	190,262 SF	190,262 SF
Coverages:	---	---	---	---	---
Building (acres)	3.56	3.56	3.14	3.56	3.56
Pavement (acres)	5.32	6.66	6.66	7.04	6.66
Gravel Parking (acres)	1.34	0	0	0	0
Lawn/Landscaping (acres)	12.63	12.63	13.05	12.25	12.63
Natural (acres)	10.75	10.75	10.75	10.75	10.75
Water Resources:	---	---	---	---	---
Wastewater Grtn. (gpd)	12,505	20,150	20,160	20,150	20,150
Recharge Volume (MGY)	28.76	31.53	31.35	31.71	30.53
Nitrate Cnctrtn. (mg/l)	5.77	8.51	8.57	8.46	8.51
Miscellaneous:	---	---	---	---	---
Total Enrollment	963	1,016	1,738	1,016	1,738
Commuter	859	808	1,582 (1)	808	1,582 (1)
Residential	104	208	156	208	156
Residential Capacity	104	208	156	208	156
Faculty/Staff	82	102	110	102	110
Solid Waste (lbs/day)	2,889 (est.)	3,048	5,214	3,048	5,214
Parking Spaces Provided	537	537	537	537	537

* Buildings 3 and 4 are unfinished and units are unoccupied.

(1) 774 more commuter students could be accommodated under this alternative than under the proposed plan

complete) to be utilized as originally proposed and approved by the Town Planning Board in 2000. The same vehicle access point onto Burrs Lane is assumed, with no additional access onto the LIE North Service Road.

As only three of the four buildings would be completed, total building square footage is decreased from that existing and proposed, by 18,110 SF. The 0.21 acres of area on which the fourth building is sited will be converted to landscaping, thereby increasing this coverage to 13.05 acres. The area of new paving for parking is assumed to remain the same as in the proposed project, thereby resulting in a slightly greater proportion of parking spaces in comparison to building square footage than the proposed project, and the graveled parking area is likewise assumed to be the same as in the proposed project. The same amount of natural area would be retained, while landscaped area would be slightly increased from that of the proposed project.

As only three dormitory buildings would be built in this alternative, only 156 residential students would be generated. However, under this alternative an additional 774 commuter students could be accommodated at the College as a matter of right (based upon sanitary wastewater system capacity) for a total enrollment of 1,738 students, nearly double the size of the current student population

While the applicant believes that sufficient interest in the College exists to achieve these enrollment levels, it is committed to its plans to develop a highly selective institution with smaller student populations. This alternative would clearly have the potential to create a greater traffic impact, while not reducing the amount of sanitary wastewater generated on-site.

4.2 Alternative 2: Additional Access on LIE North Service Road

This alternative assumes that the proposed action is completed, with a new vehicle access constructed to the North Service Road of the LIE east of Burrs Lane (to become the main campus access), while the existing southerly access on Burrs Lane is closed (see **Proposed Expressway Service Road Entrance Plan**, in folder at rear). This would have the effect of significantly reducing the potential use of Burrs Lane by FTC-generated traffic, as the northern driveway would access only the traffic loop in front of the college, for quick drop-offs/pick-ups. Under this alternative, this new driveway would be the only access to and from FTC; all entering traffic would have to enter the college from the westbound LIE NSR, and all exiting traffic would have to exit onto the same roadway, allowing only right turns in and out due to its location on the LIE NSR (which is one way westbound).

As shown in the plan, the entire parking area would be paved; an access to this parking lot would be available off the new access drive. As a result of this elimination of graveled surface and additional roadway area, the amount of impervious surfaces is increased, to 7.04 acres. The amount of building coverage and retained naturally vegetated area is the same as the proposed project, leaving a small decrease in landscaped area (to be removed from the southerly ballfields)



of 12.25 acres. Wastewater generation, recharge volume, recharge quality, enrollment, solid waste generation and trip generation characteristics of this alternative would be identical or similar to those of the proposed project.

The following discussions in regard to the potential impacts due to the access features of this alternative has been adapted from the TIS:

An investigation was performed to determine if relocation of the access to FTC would have a negative impact upon the residential community surrounding the property.

If the site access driveway to FTC were relocated, to arrive at the college from the east via the LIE, all westbound traffic would exit the LIE at Exit 51, Deer Park Avenue, and travel west along the service road to the alternate entrance to the college.

To arrive at FTC from the south, vehicles would travel via Bagatelle Road and Deer Park Road. If traveling from Bagatelle Road, a vehicle must travel east along the LIE SSR to Half Hollow Road, make a left turn on Half Hollow Road, make another left turn onto the LIE NSR and enter the college as noted above. Vehicles traveling north on Deer Park Road would turn left onto LIE NSR and then enter the college as noted above.

Vehicles traveling to FTC from the north, or the Northern State Parkway would arrive at Half Hollow Road via Old South Path, Carman Road or Vanderbilt Parkway (CR 67). If the entrance to the college were on Burr's Lane, these vehicles from the north would only make one turn from Half Hollow Road to Burr's Lane and enter the college. If the access to the college were located on the LIE NSR, the vehicles from the north would have to travel through the residential community to the LIE NSR to arrive at the alternate site access driveway.

Vehicles traveling from the west, via the eastbound LIE would exit the LIE at Exit 50 and travel east to Half Hollow Road would turn left twice and travel to the college entrance, if it were relocated.

All exiting vehicles would leave the college at the LIE NSR and travel to the west to the traffic signal at Bagatelle Road, or turn right onto Burr's Lane to travel north, east and west. Every vehicle exiting the college must exit in either of these directions. There is an entrance to the westbound LIE at a point west of Bagatelle Road. Vehicles traveling to the south would also travel to the traffic signal at Bagatelle Road and turn left twice to head east towards Deer Park Road. Vehicles traveling to the north would make a right turn onto Burr's Lane upon exiting the college and travel along the same routes whether the exit was on Burr's Lane or on the LIE NSR. Therefore, the location of the exiting driveway of the college does not significantly affect the travel routes of those exiting the college.

There will be no impact to the signalized or unsignalized driveways and site access driveway if the entrance to FTC is located on the LIE NSR [see **Table 4-2**]. However, travel times to the college would be increased due to the relocation of the driveway, and southbound traffic to FTC would be forced to travel along routes previously unaffected by college traffic.



TABLE 4-2a
LEVEL OF SERVICE SUMMARY - Alternative 2
Signalized Intersections

Intersection	Condition	AM Peak Hour		PM Peak Hour		Saturday Peak Hr	
		Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
LIE SSR @ Bagatelle Rd.	Commuter No Build	43.5	D	108.3	F	16.4	B
	College No Build	17.6	B	25.8	C	N/A	N/A
	Commuter Build	38.5	D	108.4	F	16.5	B
	College Build	17.4	B	25.8	C	N/A	N/A
LIE NSR @ Bagatelle Rd.	Commuter No Build	74.1	E	17.7	B	16.1	B
	College No Build	17.0	B	17.3	B	N/A	N/A
	Commuter Build	77.6	E	17.8	B	16.3	B
	College Build	17.3	B	17.4	B	N/A	N/A
Half Hollow Rd. @ Bagatelle Rd.	Commuter No Build	30.9	C	13.4	B	13.9	B
	College No Build	13.0	B	12.7	B	N/A	N/A
	Commuter Build	31.8	C	13.5	B	14.1	B
	College Build	12.6	B	12.7	B	N/A	N/A
Half Hollow Rd. @ CR 67	Commuter No Build	16.9	B	29.8	C	16.4	B
	College No Build	16.8	B	17.7	B	N/A	N/A
	Commuter Build	16.8	B	30.2	C	16.4	B
	College Build	16.7	B	17.8	B	N/A	N/A

TABLE 4-2b
LEVEL OF SERVICE SUMMARY - Alternative 2
Unsignalized Intersections

Intersection	Condition	AM Peak Hour			PM Peak Hour			Saturday Peak Hour		
		Mvmnt	LOS	Delay (sec/veh)	Mvmnt	LOS	Delay (sec/veh)	Mvmnt	LOS	Delay (sec/veh)
Half Hollow Road @ Burrs Lane	Commuter No Build	EB	B	11.4	EB	A	8.0	EB	A	8.0
		WB	A	8.0	WB	A	9.2	WB	A	8.0
		NB	D	25.4	NB	C	17.2	NB	B	13.2
		SB	D	33.1	SB	N/A	N/A	SB	B	12.2
	Commuter Build	EB	B	11.4	EB	A	8.0	EB	A	8.1
		WB	A	8.0	WB	A	9.2	WB	A	7.9
		NB	D	29.2	NB	C	17.5	NB	B	12.9
		SB	D	32.7	SB	N/A	N/A	SB	B	13.1
	College No Build	EB	A	8.0	EB	A	8.1	EB	N/A	N/A
		WB	A	8.3	WB	A	8.7	WB	N/A	N/A
		NB	B	12.7	NB	C	15.6	NB	N/A	N/A
	College Build	EB	A	8.1	EB	A	8.1	EB	N/A	N/A
		WB	A	8.1	WB	A	8.7	WB	N/A	N/A
		NB	B	13.2	NB	C	16.1	NB	N/A	N/A
LIE NSR @ South Site Access (No Build)	Commuter	SB	C	20.0	SB	B	11.0	SB	B	10.4
	College	SB	B	10.4	SB	B	11.9	SB	N/A	N/A
Burrs Lane @ LIE NSR	Commuter No Build	SBR	C	18.9	SBR	B	10.5	SBR	B	10.0+
	Commuter Build	SBR	C	18.6	SBR	B	10.0+	SBR	A	9.9
	College No Build	SBR	B	10.1	SBR	B	10.9	SBR	N/A	N/A
	College Build	SBR	A	9.9	SBR	B	10.1	SBR	N/A	N/A

Therefore, although the intersections studied would not be impacted by the relocation of the driveway, travel times to the college will be increased due to the location of the proposed driveway on the LIE NSR, with no other alternate entrance available.

Representatives of FTC indicate that relocating the college entrance to the LIE NSR would prevent the college from hosting community athletic programs, inasmuch as the new entrance would cut through existing athletic fields, reducing the amount of open space and creating traffic hazards in areas where young children currently play. In addition, this new entrance would also impact homes located on Broad Oak Court and Lone Hill Place, which are adjacent to Five Towns College in the vicinity of the proposed roadway.

In consideration of the following, there is no compelling reason to implement this alternative in preference to the proposed project:

- the high cost of constructing a new roadway,
- the loss of open space,
- the dangerous conditions created by placing a roadway where neighborhood children play,
- the additional traffic that would be forced travel along routes previously not used,
- the increase in travel times to the college,
- the impact upon adjoining properties and
- the fact that intersections studied would not be impacted in a positive manner by the relocation of the driveway.

4.3 Alternative 3: Reduced Scale Project

This alternative assumes that the proposed project is completed, with the exception being that the fourth dormitory building (designated #4, currently about 20% completed) is converted into additional classroom space, as opposed to being demolished, as discussed in Alternative 1.

As all four buildings completed or under construction would be finished and occupied in this alternative, total square footage and coverage characteristics of this alternative are identical to those of the proposed project. However, as only 156 residents are anticipated and classroom space is increased, non-residential enrollment could be increased by 774 new students to a total student population of 1,738 students.

As projected in above, under this alternative there would be 1,582 commuter students. Wastewater generation would be exactly the same under this alternative due primarily to the increase in commuter students

Unlike Alternative 1, this alternative would provide increased capacity and improved facilities for higher education, though at the cost of 25% fewer residents. The project sponsor does not consider this alternative to be an acceptable option to address the educational needs and goals of FTC inasmuch as the current structure cannot be readily modified to meet an alternative non-residential need. More importantly, it would leave the College ill prepared to address the lack of available housing for its students. It must be noted that if the College were unable to implement this Living/Learning Center program as proposed, the campus would face an immediate shortage of safe housing, which would force residential students to seek private housing in neighborhoods adjacent to the College. The College seeks to avoid having students reside in the adjacent community by making adequate plans for on-campus housing now. Various studies by higher education professionals have concluded that colleges that fail to make adequate plans for student housing are more likely to have a greater impact upon host communities than colleges which make adequate housing plans and have facilities available. This application is consistent with the College's effort to be a "good neighbor."



- Also possibility of all 4 buildings converted to class or dorms
- Addition of on site STP and more dorms

APPENDICES



APPENDIX A

SEQRA-RELATED DOCUMENTS



Appendix A-1
Environmental Assessment Form (EAF) Parts 1, 2 and 3

Town Department of Planning and Environment

June 22, 1999



NELSON, POPE & VOORHIS, LLC
ENVIRONMENTAL • PLANNING • CONSULTING

**FULL ENVIRONMENTAL ASSESSMENT FORM
COVER SHEET AND STATEMENT OF DETERMINATION OF SIGNIFICANCE**

Purpose: The Environmental Assessment form (EAF) is designed to help applicants and reviewing agencies determine, in an orderly manner, whether a project or action may result in significant impacts. The question of whether an action may be significant is not always easy to answer. Frequently, there are aspects of a project that are subjective or unmeasurable making the determination difficult. It should also be understood that individuals that review projects may have different levels of expertise, differing analytical skills and/or be proficient in varying disciplines. The Full EAF is intended to provide an analytical tool by which applicants and agencies can be sure that the process has been orderly and comprehensive in nature, while remaining flexible enough to allow the introduction of data to the process resulting in a project that best fits the circumstances.

The full EAF is designed to in some way quantify the decision making process. It provides an agency with a record of the review that supports a final decision. If more information is needed before a decision can be made then it can be provided in an impact statement, however, processing the Full EAF can result in a determination that a project impacts can be mitigated and no further review is necessary.

Components of the Full EAF:

Part 1: Filled out by the applicant/sponsor - It provides data and information about a given project and its site. By identifying basic project data, it assists the reviewer in the analysis that takes place in the EAF Part II and III.

Part 2: Focuses on identifying the range of possible impacts, if any, that may occur from a project or action. It provides guidance as to whether an impact is likely to be small, moderate or potentially large. The form also assists the reviewer in identifying whether an impact can be mitigated or reduced. Filled out by reviewing agency.

Part 3: If any impact is identified in part two (2) as one which is potentially large then part three (3) is used to analyze the impact and determine whether or not it can be mitigated or more information is needed before a decision can be made by the agency about the proposed project. Part III need not be prepared if upon preparing Part II can be determined that the significant impacts will result from the proposed project or action. Prepare by reviewing agency.

**TO BE COMPLETED BY THE LEAD AGENCY
DETERMINATION OF SIGNIFICANCE
For Type I and Unlisted Actions**

Identify the portions of the EAF prepared for the proposed project described herein: ☒ Part I ☐ Part 2 ☐ Part 3
Upon review of the information recorded on this EAF (Parts I and II and III if necessary), and any other supporting data, and considering both the magnitude and importance of each impact that may occur if the project is implemented, it is reasonably determined by the lead agency that:

- ☐ A. The project will not result in any large and important impact(s) and, therefore, is one which will not have a significant effect on the environment, therefore a **Negative Declaration** will be prepared.
- ☐ B. Although the project could have a significant effect on the environment, this unlisted action will not have such an effect because the mitigating measures described in Part III of the EAF have been required, therefore a **Conditioned Negative Declaration** will be prepared.
- ☐ C. The project may result in one or more large and/or important impacts that may have a significant impact on the environment, therefore a **Positive Declaration** will be issued and an **Environmental Impact Statement** will be prepared.

Five Towns College

Name of Action

Name of Lead Agency

Print or type name of officer in Lead Agency

Title of Officer

Signature of Officer in Lead Agency

Signature of Preparer (if different than Officer)

Date

PART 1 - PROJECT INFORMATION**Responsibility of project sponsor to complete**

NOTICE: This document is designed to assist in determining whether the action proposed may have a significant effect on the environment. Complete the entire form, Parts A through E. Answers to these questions herein will be considered as part of the application for approval and may be subject to further verification and public review. Provide any additional information you believe will be needed to complete Parts II and III of the Full EAF. It is expected that completion of the Full EAF will be dependent on information not currently available and requiring additional work is needed and should be supplied, then he/she does so at his/her own discretion. Please answer N.A. to any question below that does not apply.

Name of Action: Five Towns CollegeSuffolk County Tax Map Number: 0400-261.00-03.00-001.002Location: 305 North Service Road, Dix Hills, NY 11746

Street

Hamlet

Applicant/Sponsor Information:

Name: Five Towns College/Five Town College Realty Property Trust Phone: ()Street Address: 305 North Service RoadCity/State/Zip: Dix Hills, NY 11746

Owner Information (if different than Applicant/Sponsor):

Name: Phone: ()

Street Address:

City/State/Zip:

Use the last page or the back of this form to answer questions for which there is insufficient space on the form to include all pertinent information.

DESCRIPTION OF ACTION*See attached Project Description***A. Site Description:**

Physical setting of overall project, both developed and undeveloped areas.

1. Present land use: CHECK ALL THAT APPLY

Urban	Industrial	Commercial	Residential
Rural (non-farming)	Forest <i>X</i>	Other (explain) <i>X*</i>	Agriculture

Institutional*2. Total Acreage of Project Area:** 33.6 acres.

APPROXIMATE ACRES	PRESENT	COMPLETED PROJECT
Meadow or Brushland	<u>0±</u> acres	<u>0±</u> acres
Forest	<u>14.77±</u> acres	<u>11.65±</u> acres
Agriculture	<u>0±</u> acres	<u>0±</u> acres
Wetland	<u>0±</u> acres	<u>0±</u> acres
Water Surface Area	<u>0±</u> acres	<u>0±</u> acres
Unvegetated	<u>1.36±</u> acres	<u>0±</u> acres
Roads, Buildings etc.	<u>6.67±</u> acres	<u>9.53±</u> acres
other (indicate) <i>turf/landscaping</i>	<u>10.8±</u> acres	<u>12.42±</u> acres

FIVE TOWNS COLLEGE
LONG EAF ATTACHMENT

Project Description:

The project involves the construction of four 16,034 square foot structures located at Five Towns College, in Dix Hills, NY. The 33.6 acre parcel currently contains a 120,000 square foot classroom building. The four proposed dorm structures would house 52 beds per dorm, with approximate water usage at 75 gallons per bed. The project will require approximately 3.12 acres to be developed in the northwest forested portion of the parcel. In addition, the parking lot located at the southern end of the campus will be expanded to provide 166 additional parking spaces will be built to access the additional structures. A 12' wide driveway 6' of geoblock pavers on either side which will give an emergency access of 24 feet. In addition to the existing traffic generated by the college, it is anticipated that roughly 1/8 of the dormitory students (208 total) can be expected to leave and return to the college during the peak hour trip generation creating an additional 52 trips generated by the proposed project (26 leaving and 26 returning). It is further anticipated that additional traffic generation created by the proposed dorm structures is not expected to run during the peak hours (7am - 9am & 4pm - 6pm) of operation as college schedules for students residing on campus typically do not correspond to normal commuter hours.

3. What is predominant soil type(s) on project site? MiB-Montauk Soils 0-8% slope, MkB-Montauk Silt Loam 3-8% slope, CpE-Carver & Plymouth Sand 15-35% slope

Soil Drainage: 75%±* unclassified

Well Drained	<u>12.5±</u> %	Moderately Drained	<u>12.5±</u> %	Poorly Drained
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4. Approximate percentage of proposed project site with slopes:

0 to 10%	<u>87.5±</u> %	10 to 15%	%	15% or greater-	<u>12.5±</u> %
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5. Is project site contiguous to or substantially contiguous to (i.e., across the street etc.), or contain a building, site or district on the State or National Registers of Historic Places or on the Register of Natural Landmarks? Yes X No

6. Is project site contiguous or substantially contiguous to or is it occupied by an historic building or landmark as designated pursuant to Article VI of the Town Code? Yes X No

7. Is the project site within a one mile radius of an archaeologically significant site or multiple site zone, as has been identified by the New York State Office of Parks, Recreation and Historic Preservation using the "circles and squares" method of evaluation? Yes X No

8. What is the depth of the water table? 67± (in feet)
and to Groundwater? 143'± - 88'± feet.

9. Is project site located over a primary, principal, or sole source aquifer? X Yes No

10. Do hunting, fishing or shell fishing opportunities presently exist in the project area? Yes X No
If yes, will they continue after completion of the project? Yes X No

11. Does project site contain any species of plant or animal life that is identified as threatened or endangered?
 X Yes No

If yes, then indicate authority _____
and Identify each species _____

12. Are there any unique or unusual land forms on the project site? (i.e., cliffs, dunes, etc.)

 Yes X No Indicate which: _____

13. Is the project site presently used by the community or neighborhood as an open space or recreation area? Yes X No *If yes, explain on the back of this form.*

If yes, will the use continue at the completion of the project? Yes No

14. Does the site presently include views known to be important to the community? Yes X No
If yes, will the views be retained with the completion of the proposed project? Yes No

15. Name(s) of Stream and or rivers within or contiguous to project area? N/A

A. Name of water body to which the stream/river is tributary: _____

7

16. Names and sizes (acres) Lakes, ponds and other wetland areas within or contiguous to project area:

N/A

17. Is the project site served by existing public utilities or are such utilities readily available to the site?

X Yes Noa) If yes, is there sufficient capacity to allow the proposed project to connect? X Yes

No

b) If yes, will improvements be necessary to allow connection? X Yes No

18. Is project site located in or substantially contiguous to (e.g., across the street, etc.) a Critical Environmental Area (CEA) designated pursuant to Article 8 of the ECL, and 6 NYCRR 617 (SEQRA)?

 Yes X No19. Has the project site ever been used for the disposal of solid or hazardous wastes? Yes X No**B. PROJECT DESCRIPTION**

1. Physical dimensions and scale of project (fill in dimensions as appropriate)

a. Total contiguous and/or substantially contiguous (e.g., across the street) acreage owned or controlled by the project sponsor is 33.6± acres.b. Project acreage to be developed initially is 4.48± acres and ultimately is 4.48± acres.c. Acreage to remain undeveloped upon completion of project is 11.65± acres.d. Length of project, in miles is N/A miles. (If appropriate)e. If project will result in enlargement of a facility indicate the percent expansion here: 5± %f. For commercial/industrial indicate, if any, the number of off-street parking spaces existing: 239 ; proposed: 166 , and required by Code: 190 .g. Estimate the maximum vehicular trips that will be generated per hour upon completion of project: 52* trips/hour. **see project description*

h. If the proposed project is residential indicate below the number and type of housing units below:

	One Family	Two Family	Multi-Family	Attached Cluster
Initially			<u>0</u>	
Ultimately			<u>4 Dorm Buildings</u>	

52 beds per dorm

i. Dimensions, in feet, the largest proposed structure

30 height; 71 width; 161 length.j. If non-residential indicate the gross floor area of proposed building: 64,136± sq. ft.k. If commercial/industrial indicate the "Floor Area Ratio": N/A FAR.

(Proposed building area in square feet divided by lot area in square feet)

l. Linear feet of frontage on any road in the Town is 3,445 feet.

2. How much natural material (e.g., rock, earth, sand, etc.) will be removed from the project site?

7,000± tons 7,820± cubic yards.3. Will disturbed areas be reclaimed? Yes X No N/Aa. If yes indicate here the intended purpose for reclamation: b. Will top soil and/or upper subsoil be stock piled for reclamation? X Yes No

4. Indicate here how many acres of vegetation (trees, shrubs, ground covers) will be removed from the project site during construction? 3.12± acres.
5. Will mature forest (over 100 years old) or other locally-important vegetation and/or NYS projected native plants be removed by the proposed project? Yes X No
6. If the proposed project is multi phased then: N/A
- a. Total number of phases are 4 .
- b. Anticipated starting date phase one is: Month Sept. Year 1999 .
- c. Approximate completion date of final phase 01 Month 02 Year.
- d. Is the first phase functionally dependent on the following Phase(s) Yes X No
7. Estimate the number of jobs generated: during construction 100± ; if industrial/office or retail indicate number of jobs generated when complete 10± .
8. Indicated the number of jobs that will be eliminated by the proposed project if it is implemented: 0 .
9. Will the proposed project require relocation of any other projects or facilities? Yes X No
If yes, explain here: _____
10. Does the proposed project involve a liquid waste discharge to a body of water? Yes X No
- a. If yes, indicate volume per day (_____ gallons), & type (sewage, industrial) _____.
- b. If yes, indicate into what body of water the discharge will take place:

11. Is subsurface liquid waste disposal involved? X Yes No
If yes, indicate volume per day (20,150 gallons), type (storm water, sewage, industrial): sewage
 (15,600 gpd proposed dorm & 4,550 gpd existing school)
12. Will the surface area of an existing body of water increase, decrease or will the bottom become deeper as a result of the proposed project? Yes X No If yes, explain on back of this form.
13. Is any portion of the proposed project within either a 50 year or 100 year flood plain? Yes X No
If yes, which: _____ Year flood plain.
14. If implemented will the project generate solid waste? X Yes No
- a. If yes, estimated amount per month will be 21.84±* tons. **estimate based on 7lbs/day increase for dormitory students-may be high*
- b. If yes, will an existing solid waste facility be used? X Yes No If yes, provide name and location here: Town of Huntington Resource Recovery Facility, East Northport
15. Will any wastes **not** go into a sewage disposal system, a sanitary landfill, resource recovery facility or be recycled? Yes X No N/A-Site is not expected to produce waste.
- a. If yes, explain _____
16. Indicate the volume of solid waste that will be recycled by the completed project each month:
 N/A tons.

To be answered only if project is one that will operate a facility that disposes of solid waste

17. Will the project involve the handling and disposal of solid waste? ☐ Yes ☒ No

a. if yes, what is the anticipated rate of disposal? _____ tons/month.

b. If yes, and landfilling is proposed, what is the site life? _____ years.

18. Is the project expected to use herbicides or insecticides on a regular basis for other than normal landscape maintenance? ☐ Yes ☒ No

19. If implemented will project routinely produce odors? ☐ Yes ☒ No

20. Is project expected to produce operating noise which exceeds local ambient noise levels? ☐ Yes ☒ No

21. Will project result in increased in energy usage for other than ordinary lighting and heating requirements? ☐ Yes ☒ No

If yes, indicate type(s) _____

22. If water supply is from wells indicate pumping capacity N/A gallons/minute.

23. Total anticipated water usage will be 20,150± gallons per day. (*15,600 gpd proposed dorm & 4,550 gpd existing school*) *3,700 gpd additional water use for irrigation during growing season

24. Does project involve Local, State or Federal funding? ☐ Yes ☒ No

If yes, explain _____

25. Approvals Required:

Agency			Type of Approval	Submittal Date
Town Board	Yes	<input checked="" type="checkbox"/> No		
Planning Board	<input checked="" type="checkbox"/> Yes	No	<i>Site Plan</i>	<i>Pending</i>
Town ZBA	Yes	<input checked="" type="checkbox"/> No		
Health Department	<input checked="" type="checkbox"/> Yes	No	<i>Sewer/Water</i>	<i>Pending</i>
Other Local Agencies	Yes	<input checked="" type="checkbox"/> No		
State Agencies	Yes	<input checked="" type="checkbox"/> No		
Federal Agencies	Yes	<input checked="" type="checkbox"/> No		
Other	Yes	<input checked="" type="checkbox"/> No		

C. ZONING AND PLANNING INFORMATION

1. Does proposed action involve a planning or zoning decision? ☐ Yes ☒ No

Indicate which of the following: **Check All that Apply**

Zoning Amendment	Zoning Variance	Special Use Permit	Subdivision
Site Plan	New or Updated Master Plan	Resource Management Plan	Other

If other, explain: _____

2. What is the zoning classification(s) of the site? R-40

3. In your opinion, what is the estimated maximum potential development of the subject site at the existing zoning? N/A expansion of pre-existing use

4. If a zone change is proposed what zoning classification is requested and, in your opinion, what is the estimated maximum development potential of the subject site? Explain: N/A no proposed change of zone
5. Is the proposed action consistent with the recommended uses in adopted local land use plan (s)?
X Yes No
6. What are the predominant land uses and zoning classifications within a 1/4 mile radius of the proposed action? List: R-40 Residential, R-10 Residential
7. In your opinion, is the proposed project compatible with adjoining/surrounding land uses within 1/4 mile of the subject site? X Yes No
8. If the proposed action compatible is a subdivision of land how many lots are proposed and what is the minimum lot size proposed? Explain: N/A
9. Will the proposed action require the extension of an existing sewer district or authorization for formation of a new sewer or water district? Yes X No
10. Will the proposed action create a demand on any community provided services (recreation, education, police, fire protection etc.)? X Yes No **expecting 23%± increase in students*
- If yes, is the existing capacity of the utility or service sufficient to handle the project demand?
X Yes No
11. Will the proposed action result in generation of vehicular traffic significantly above present levels?
 Yes X No
- a. If yes, is existing infrastructure (roads, signals, signage, etc.) adequate to handle the additional traffic? Yes No On what authority is this opinion offered?
- b. Will Improvements be necessary? Yes X No If yes to either a) or b) provide the basis for such opinion and agency name and documentation that supports the conclusion: _____
- _____
- _____
- _____
- _____

D. Additional Information Details

Attach any addendum with any additional information needed to clarify your project. If there may be adverse impacts associated with the proposal, discuss those impacts and the measures which you will undertake to mitigate or avoid them.

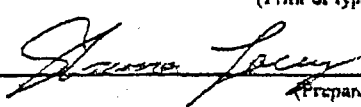
E. VERIFICATION

I hereby certify that I have filled out the above form for the action known as:

and to the best of my knowledge all of the answers are true.

Name: Nelson, Pope & Voorhis, LLC
(Print or type name)

Date: 4/22/99

Signature:  (Shana M. Lacey) Title: Environmental Scientist
(Preparer)

If the Applicant/Sponsor did not fill out this form then the following verification must be signed.

I am the applicant/sponsor of the proposed project described above and I hereby certify that I have given the above signed individual/company permission to fill out this form on my behalf. I further certify that the above signed consultant has made me aware of the questions on this form and explained the answers that have been provided, and I understand the proposed project and the answers provided on this form.

Name: _____
(Print or type name)

Date: _____

Signed: _____
(Applicant/Sponsor)

Title: _____

Five Towns College

(Amended Site Plan)

ENVIRONMENTAL ASSESSMENT FORM

PARTS II & III

SEQRA CLASSIFICATION

The subject property on which the action is proposed is substantially contiguous to a Town designated open space parcel listed on the Town's Open Space Index as OSI # SE-22. The action proposes construction of four (4) dormitory structures housing 52 beds per dorm yielding a total of 208 beds. The subject property's existing southern parking lot will be expanded further to the south to accommodate an additional 166 parking stalls for the dorm buildings. The Applicant's EAF Part I Attachment indicates that the dorms will generate approximately 75 gallons of water usage per bed. The plans submitted by the applicant do not depict the dorm buildings connected to an existing sewerage system including a sewage treatment works, but independent subsurface sanitary disposal systems. The action will also result in the physical disturbance of more than 2½ acres. Based upon all of the available information submitted for this application and the criteria under 6 NYCRR, specifically §617.4(b)(5)(ii), §617.4(b)(6)(i) and §617.4(b)(10), said action is classified as a Type I Action pursuant to SEQRA.

PROJECT DESCRIPTION

The 33.6 acre subject property is within an R-40 one acre Residence zone district and is located on the southeast corner of Half Hollow Road and Burrs Lane, and the northeast corner of Burrs Lane and the Long Island Expressway North Service Road in Dix Hills, indicated as SCTM # 0400-261-03-001.2.

As indicated on the applicant's EAF Part I and associated site, floor and elevation plans, the subject property currently contains a 120,000 square foot classroom building known as Five Towns College (formerly Burr's Lane Jr. High School - School District #5). The action proposes construction of four (4) 16,034 square foot dormitory buildings housing 52 students per dorm with approximate water usage at 75 gallons per bed. The plans depict roughly 3.12 acres of existing forested area within the northwest corner of the subject property to be removed and re-graded for the four dorm structures. The property's existing north-south service drive connecting with Half Hollow Road will be re-routed roughly 50 feet to the east to accommodate both placement of the new dorm buildings and fire adequate fighting needs. There will also be 166 additional parking stalls at the proposed facility; an expansion of the site's existing parking field. As specified in the EAF Part I, the action is proposed to be a four (4) phase project anticipated to take place from September 1999 to January 2002; a duration of twenty-nine (29) months or roughly 2½ years. The EAF Part I indicates that the first phase is not functionally dependent on the following phases. The applicant's EAF Part I also states that the college is expecting an approximate twenty-three percent (23%) increase in students as a result of the proposed dormitory expansion.

As depicted on the applicant's building floor and elevations plans (A1 through A4), the four (4) dormitory buildings are proposed to be of a two (2) story/three (3) floor design on varied topography and will include such amenities as laundry rooms, learning center rooms, handicapped rest rooms, entrance lobby, vestibule and security rooms in addition to the one and two bedroom dorm units each containing a bathroom and closet space.

NATURAL RESOURCE DESCRIPTION

The 33.6 acre subject property contains a 120,000 square foot school building. The school building is situated within the northern wooded half of the subject parcel. South of the school building is the college's parking area (the majority of which is paved with the remainder being blue stone gravel). This parking area is centrally located within the subject parcel. South of the parking area is lawn and open meadow area previously used for school related recreational activities (ball fields). The eastern boundary of the property abuts the rear yards of adjacent residential homes of which there is an approximate fifty (50) foot wide natural vegetative screening buffer between the actively used school grounds and the residences contiguously to the east. North and west of the school building is predominantly forested area on sloped land with grades ranging between 4% and 20%. A portion of this wooded area is the area proposed for construction of the four (4) dormitory buildings. The dorm buildings are proposed to be located at the northwest corner of the subject property and be bordered on the north by Half Hollow Road, on the west by Burrs Lane, on the south by the Burrs Lane east-west service drive to the college building, and on the east extending roughly fifty (50) feet east of the existing the Half Hollow Road north-south service drive to the college building.

Site topography on land on which the dorm buildings are proposed is set at a higher elevation than the adjacent roadways (i.e. Half Hollow Road and Burrs Lane). The forest habitat in this area is oak dominated with a predominant blueberry under-story. There is a large stand of White Pines at the top of the hill toward the northwest corner of the proposed developed area. Under-story and ground cover northeast of this pine stand is predominantly blueberry and False Solomon's-Seal along with lesser quantities of Whorled Loosestrife and Poison Ivy. Areas on either side of the site's north-south service drive to Half Hollow Road contain vines and wildflowers typical of manipulated roadside drainage areas.

IMPACT ON LAND:

1. WILL THE PROPOSED ACTION RESULT IN A PHYSICAL CHANGE TO THE PROJECT SITE?

Yes. As noted in the applicant's EAF Part I, the 33.6 acre parcel currently contains approximately 14.77 acres of forested area, 1.36 acres of unvegetated surfaces, 6.67 acres of roads and buildings (impervious area) and 10.8 acres of turf and landscaping. The EAF Part I indicates that the proposed action will result in roughly 11.65 acres of forested area, 9.53 acres of roads and buildings (impervious area) and 12.42 acres of turf and landscaping. The action will result in a physical site disturbance of 4.48 acres. There will be a physical change to the project site that will remove approximately 3.12 acres of

EAF Parts II and III

forested area and 1.36 acres of unvegetated area, and add 2.86 acres of roads and buildings and 1.62 acres of turf and landscaping. A total of 13.3% of the 33.6 acre site will be disturbed of which there will be an approximate 21% permanent loss of the site's existing forested area. The site's existing gravel overflow parking lot will be improved and extended sixty (60) feet further south over an approximate 0.6 acre flat portion of the site's open lawn area to accommodate the additional 166 off-street parking stalls for the dormitory buildings.

As noted in the Natural Resource Description above, site topography on land on which the dorm buildings are proposed is set at a higher elevation than the adjacent roadways (i.e. Half Hollow Road and Burrs Lane). Any new development set at a higher elevation will be visible from the adjacent roadways and residences unless there is an adequate screening buffer between the proposed structures and the roadway. This application incorporates such a screening buffer by retaining an approximate forty (40) to fifty (50) foot wide peripheral tract of natural woodland vegetation.

The action has the potential to affect existing patterns of surface water run-off and cause erosion and off-site sedimentation onto nearby roads or drives. Curbing, paving, grading and drainage, site lighting, buffers and landscaping typical of any site development is required pursuant to the Huntington Town Code and Subdivision Regulations and Site Improvement Specifications during the Planning Board's site plan review and approval of said development. Such will ensure mitigation to any potential grading and drainage impacts regarding the site development proposal.

2. WILL THERE BE AN EFFECT TO ANY UNIQUE OR UNUSUAL LAND FORM(S) FOUND ON THE SUBJECT SITE?

No.

IMPACT ON WATER:

3. WILL THE PROPOSED ACTION AFFECT ANY BODY OF WATER DESIGNATED AS PROTECTED UNDER ARTICLES 15, 24, 25 OF THE NYS ENVIRONMENTAL CONSERVATION LAW OR THE TOWN OF HUNTINGTON MARINE CONSERVATION LAW?

No.

4. WILL THE PROPOSED ACTION AFFECT ANY NON-PROTECTED EXISTING OR NEW BODY OF WATER?

No.

5. WILL THE PROPOSED ACTION AFFECT SURFACE OR GROUNDWATER QUALITY OR QUANTITY?

Five Towns College
EAF Parts II and III

June 22, 1999

Yes. The action has the potential to affect existing groundwater quality. The proposal will not connect to an existing sanitary system nor will it connect to an existing sewage treatment facility since none are located in the vicinity of the subject property. The site plan depicts construction of three (3) conventional subsurface liquid sanitary waste disposal systems (one for dorm building #1, one for dorm building #2, and a shared system for dorm buildings #3 & 4).

The Suffolk County Department of Health Services (SCDHS) maximum allowable flow for conventional subsurface sewage disposal systems on the 33.6 acre subject site is 20,160 gallons per day (gpd) [33.6 acres x 600 gpd]. The SCDHS minimum design sewage flow rate for a 'Day School' is 5 gpd/capita (+ food @ 2 1/2 gpd/capita - this additional flow rate for food is for sanitary design capacity standards only and not for nitrogen loading/density calculations; source SCDHS Wastewater Management Division; 10/7/98). Discussion with a representative of the SCDHS Wastewater Management Division (10/7/98) indicates that for wastewater nitrogen loading/density calculation purposes, the number of dormitory residents can be subtracted out from the number of persons using the school building per day since the dormitory residents have their own design flow standard of 75 gpd/capita.

Discussion with the EAF Part I Preparer (Shana M. Lacey of Nelson, Pope & Voorhis, LLC - 10/7/98) indicated that the school building will generally retain 1,118 persons per day of which 208 would be dormitory persons and 910 would be the remaining students, teachers & employees. The applicant's EAF Part I also states that the college is expecting an approximate twenty-three percent (23%) increase in students as a result of the proposed dormitory expansion. Based upon the above information, the increase in the number of students from the proposed dormitory expansion (208 students) is a direct correlation to the percent increase in the anticipated number of additional college students for the campus [$\pm 23\%$ of 910 students is equal to an additional 208 students].

Based upon the above information, the anticipated volume of wastewater generation for nitrogen loading/density calculations using the SCDHS minimum design sewage flow rates would be as follows:

School building	910 persons x 5 gpd/capita	= 4,550 gpd
4 dorm buildings	208 persons x 75 gpd/capita	= 15,600 gpd
		<hr/>
		Total = 20,150 gpd

The applicant's EAF Part I reflects the above noted design flow rates. The total proposed design flow for the 33.6 acre site is just below the maximum allowable design flow standard of 20,160 gpd for conventional subsurface sanitary disposal systems by just 10 gpd. Review & approval of the proposed action by the Suffolk County Department

June 22, 1999

of Health Services (SCDHS) prior to the issuance of building permits by the Town will ensure protection of any surface and/or groundwater resources for compliance with the Suffolk County Sanitary Code.

6. WILL THE PROPOSED ACTION ALTER DRAINAGE FLOW OR PATTERNS OR SURFACE WATER RUN-OFF?

Yes. Due to proposed construction/development activities, the action has the potential to affect existing patterns of surface water run-off and cause erosion and off-site sedimentation onto nearby roads or drives. Conformance with the Town Code requirements to include review of a Grading and Drainage Plan during the Planning Board's site plan review and approval process will minimize erosion and off-site sedimentation impacts to the greatest extent practicable as well as ensure on-site disposal of stormwater run-off. Also, refer to #20 below.

IMPACT ON AIR:

7. WILL THE PROPOSED ACTION AFFECT AIR QUALITY?

Please refer to #20 below.

8. WILL THE PROPOSED ACTION AFFECT ANY PROTECTED, THREATENED AND/OR ENDANGERED SPECIES (AS PER FEDERAL OR STATE LAW)?

Yes. As identified in the applicant's EAF Part I, the subject property does contain some New York State protected plant species. The action will result in a partial loss of woodland containing some of these protected plant species.

In the vicinity of the proposed dormitory development the following vegetative species were observed: Oaks (*Quercus* spp.) [Scarlet (*Q. coccinea*), Pin (*Q. palustris*), White (*Q. alba*), Chestnut (*Q. prinus*), Northern Red (*Q. rubra*), Black (*Q. velutina*), Blackjack (*Q. marilandica* - *State Protected rare native plant) or Blackjack hybrid], Sassafras (*Sassafras albidum*), White Pine (*Pinus strobus*), Pitch Pine (*Pinus rigida*), Birches (*Betula* spp.) [Gray (*B. populifolia*) and Black (*B. lenta*) or Yellow (*B. alleghaniensis*)], Chestnut (*Castanea dentata*), Black Cherry (*Prunus serotina*), Red Maple (*Acer rubrum*), Princess-tree (*Paulownia tomentosa*), Tree-of-Heaven (*Ailanthus altissima*), Mountain-ash (*Sorbus* spp.), Blueberries (*Vaccinium* spp.), Low Gallberry Holly (*Ilex glabra* - *State Protected exploitably vulnerable), Common Winterberry Holly (*Ilex verticillata* - *State Protected exploitably vulnerable), Northern Arrowwood (*Viburnum recognitum*), Mapleleaf Viburnum (*Viburnum acerifolium*), Greenbriers (*Smilax* spp.), Poison Ivy (*Rhus radicans*), Japanese Honeysuckle (*Lonicera japonica*), Whorled Loosestrife (*Lysimachia quadrifolia*), Fox Grape (*Vitis labrusca*), Bittersweet (*Celastrus* spp.) [American (*C. scandens* - *State Protected exploitably vulnerable) or Asiatic (*C.*

orbiculatus], Jewelweed (*Impatiens pallida*), Common Nightshade (*Solanum nigrum*), Pokeweed (*Phytolacca americana*), ferns - *State Protected exploitably vulnerable, goldenrods (*Solidago* spp.), Small White Aster (*Aster vimineus*), violets (*Viola* spp.). As stated in the New York State Department of Environmental Conservation 'Protected Native Plants' listing: "It is a violation for any person, anywhere in the state, to pick, pluck, sever, remove, damage by the application of herbicides or defoliants, or carry away, without the consent of the owner, any protected plant..." Since the application is an owner initiated application, the removal of these protected species is not considered a violation.

The following wildlife species were observed: Northern Flicker, Chickadee, Northern Titmice, Eastern Blue Jays, Chipmunks, Gray Squirrels, and a Red Tailed Hawk. Wildlife species observed during field visits is typical of this type of oak dominated forest habitat. No protected, threatened and/or endangered animal species were observed during field visits nor are there any records of protected, threatened and/or endangered animal species inhabiting or using the subject property.

In keeping with the principles of orderly site development emphasis should be placed on keeping clearing and grading limits about the periphery of the proposed development to a minimum [pursuant to the Town of Huntington Subdivision Regulations and Site Improvement Specifications § E-100.1(g) - Preservation of Natural Growth] as well as preserving as many of the site's larger specimen trees as possible. Such will ameliorate any possible loss of existing wildlife habitat (to include State protected species), prevent potential adverse visual impacts from adjacent property owners (i.e. aesthetic resources, visual impacts) as well as prevent the potential for any adverse erosion or sedimentation on or off the subject property (i.e. grading and drainage impacts). Although the action will result in a permanent removal of 3.12 acres of forested area, the applicant is complying with this measure by way of keeping tight clearing and grading limits for the intended site development. The retention of an approximate 40 to 50 foot wide peripheral buffer area of natural vegetation along adjacent roadways (Half Hollow Road and Burrs Lane) and surrounding the four dormitory buildings as well as preserving roughly seventy-five percent (79%) of the site's existing woodland areas of similar composition will ameliorate plant and wildlife concerns.

9. WILL THE PROPOSED ACTION SUBSTANTIALLY AFFECT NON-PROTECTED, NON-THREATENED OR NON-ENDANGERED SPECIES?

Please refer to #8 above.

IMPACT ON AGRICULTURAL LAND RESOURCES:

10. WILL THE PROPOSED ACTION AFFECT AGRICULTURAL LAND RESOURCES?

No.

IMPACT ON AESTHETIC RESOURCES:

11. WILL THE PROPOSED ACTION AFFECT AESTHETIC RESOURCES?

Yes. However, by way of keeping tight clearing limits as noted in #8 above, such will retain an approximate forty (40) to fifty (50) foot wide peripheral buffer of natural vegetation which, in combination with new proposed landscaping, will screen the proposed dormitory development from adjacent residential homes. The proposed dormitory buildings will also be designed in conformance with the Town of Huntington Height Area and Bulk Requirements for the zone in which it is situated. Therefore, building heights will not exceed the 35 foot height requirement; typical of a residential dwelling

IMPACT ON HISTORIC AND ARCHAEOLOGICAL RESOURCES:

12. WILL THE PROPOSED ACTION IMPACT ANY SITE OR STRUCTURE OF HISTORIC, PREHISTORIC OR PALEONTOLOGICAL IMPORTANCE?

No.

IMPACT ON OPEN SPACE AND RECREATION:

13. WILL THE PROPOSED ACTION AFFECT THE QUANTITY OR QUALITY OF EXISTING OR FUTURE OPEN SPACES OR RECREATIONAL OPPORTUNITIES?

No. The 33.6 acre subject parcel is substantially contiguous to an approximate 17.6 acre Town designated open space parcel located (within an R-40 residence zone district) indicated on the Town's 1974 Open Space Index (OSI) as SE-22 "woodland, north of the Long Island Expressway, east of Burr's Lane Jr. High School". The OSI classifies parcel SE-22 as having a preservation priority of '4'. Properties classified as priority '4' are "properties that include some segment worthy of preservation although the property as a whole is only of average interest for ecological review. The action to be recommended in these cases is expected to focus on the impact of the new development on the specific segments of the property worthy of preservation."

This open space parcel has already been developed with single family homes and a 2.4 acre State owned recharge basin under the subdivision name of 'The Woods at Dix Hills' (final Planning Board subdivision approval on February 8, 1983). Since the proposed action to construct four dormitory buildings located roughly 1,000 feet northwest of the now developed designated open space index parcel, the proposed action is not expected to impact said land. Through compliance with the Town Code and the Site Improvement Specifications, the proposed action will maintain aesthetic site

June 22, 1999

features that will in turn ameliorate potential adverse impacts to the neighborhood character and nearby open space lands. Site landscaping as part of the amended site plan review and approval process will also ameliorate the potential for adverse visual impacts.

IMPACT ON TRANSPORTATION:

14. WILL THERE BE AN EFFECT TO EXISTING TRANSPORTATION SYSTEMS?

Due to the nature of the proposed action [construction of dormitory units], Town Code requires additional off-street parking for this application and the applicant's plans have been revised to depict said parking. The applicant's EAF Part I states that the college is expecting an approximate twenty-three percent (23%) increase in the number of students. The EAF Part I addendum notes that roughly one-eighth (1/8) of the proposed 208 dormitory students can be expected to leave and return to the college during the peak hour trip generation creating an additional 52 trips (26 leaving and 26 returning). The EAF Part I addendum also notes that the anticipated additional traffic generation created by the proposed dorm structures is not expected to run during the peak hours (7am - 9am & 4pm - 6pm) of operation as college students residing on campus typically do not correspond to normal commuter hours.

By way of the attached May 25, 1999 Planning and Environment memorandum, the Director of Engineering Services, also recognized as the Town's traffic reviewer, was requested to analyze the anticipated traffic generation from the proposed dormitory structures to determine its adequacy. The Director to the Engineering Services responded by way of the attached June 8, 1999 memorandum in which he feels the applicant's anticipated traffic volumes are reasonable in terms of the volume of peak hour traffic that might be generated by the proposed dormitories and that there will not be any significant negative traffic impact associated with the proposed project.

IMPACT ON ENERGY:

15. WILL THE PROPOSED ACTION HAVE AN ADVERSE AFFECT ON THE COMMUNITY'S SOURCES OF FUEL OR ENERGY SUPPLY?

No.

NOISE AND ODOR IMPACTS:

16. WILL THERE BE OBJECTIONABLE ODORS, NOISE OR VIBRATION AS A RESULT OF THE PROPOSED ACTION?

There will be some noise impacts during construction of the proposed action. Also, refer to #20 below.

June 22, 1999

IMPACT ON PUBLIC HEALTH:

17. WILL THE PROPOSED ACTION ADVERSELY AFFECT PUBLIC HEALTH AND SAFETY?

No, with the understanding that all applicable traffic, fire safety, county health and sanitary regulations are complied with, potential public safety impacts will not be significant.

IMPACT ON SOLID WASTE DISPOSAL:

18. WILL THE PROPOSED ACTION GENERATE SIGNIFICANT QUANTITIES OF SOLID WASTES?

No.

19. WILL THE PROPOSED PROJECT INVOLVE THE DISPOSAL OF HAZARDOUS WASTES?

No.

IMPACT ON GROWTH AND CHARACTER OF COMMUNITY OR NEIGHBORHOOD:

20. WILL THE PROPOSED ACTION AFFECT THE CHARACTER OF THE EXISTING COMMUNITY?

Yes. The applicant's EAF Part I states that the college is expecting an approximate twenty-three percent (23%) increase in students subsequent to the proposed dormitory expansion. The action will have the potential to increase demand for additional community services (e.g. police and fire, etc.). The action may also be viewed as creating a demand for smaller commercial uses to be established in the vicinity of the college. The action will also pose a slight change in population to the residentially developed neighborhood. As the Planning Board determined said use is permitted within the zone, potential impacts expected as a result of the action for said use is not anticipated to be significant.

The EAF Part I specifies that the action is proposed to be a four (4) phase project anticipated to take place from September 1999 to January 2002; a duration of 29 months or approximately 2½ years. The EAF Part I indicates that the first phase is not functionally dependent on the following phases. Such an action may also be viewed as posing potential long term impacts relative to the duration of such a proposed construction development (i.e. increased construction vehicle volumes along local roadways, increased noise impacts, increased potential for air borne particulate matter during long site construction periods, increased erosion potential, etc.) which may have a potential to affect the character of the existing residential neighborhood. As the applicant will be required to adhere to Town approved site plans and construction standards; any potential impacts relative to the above noted matters will be ameliorated to the greatest extent practicable.

21. IS THERE, OR IS THERE LIKELY TO BE, PUBLIC CONTROVERSY RELATED TO POTENTIAL ADVERSE ENVIRONMENTAL IMPACTS THAT MAY RESULT IF THE PROPOSED ACTION IS IMPLEMENTED?

Five Towns College
EAF Parts II and III

June 22, 1999

Yes. As reflected in the Planning and Environment Department's file for the subject application, there have been numerous written communications indicating their views and general opposition to the construction of dormitories anywhere on the subject site for use as a residential college instead of the existing commuter college use. Oppositions are generalized but identify potential concerns relative to traffic, noise, neighborhood character, locality of the proposed dormitories relative to nearby homes, and other available facilities that are lacking to support the dormitories (i.e. nearby commercial establishments). There are few communications indicating their support of the proposed action and how such an action will improve the future of performing arts and education.

Prepared by Staff of the Planning and Environment Department
Date: June 22, 1999

TOWN OF HUNTINGTON, NY
Inter-Office Memorandum

DATE: June 8, 1999

TO: Richard Machtay, Director of Planning

FROM: Thomas A. Mazzola, P.E., Director of Engineering Services *TAM*

RE: Five Towns College

There is limited data available for trip generation rates for colleges and it is generally based on the total number of students as opposed to the number of dormitory beds. I did, however, review the information provided by Nelson and Pope and I believe that their assumptions are reasonable in terms of the volume of peak hour traffic that might be generated by the proposed dormitories. Please note that if the dormitories are intended to service current students, as opposed to increasing the student population, then there is a possibility that overall peak hour traffic generated by the college would actually decrease. In any event, I do not feel that there will be any significant negative traffic impact associated with the proposed project.

If you have any questions pertaining to the above, please let me know.

TAM:lt

DIRECTOR		<input checked="" type="checkbox"/>
DEPUTY DIR		<input type="checkbox"/>
ASST. DIRECTOR		<input type="checkbox"/>
<i>KK</i>		<input type="checkbox"/>
AGENDA		<input type="checkbox"/>
ADDED STARTER		<input type="checkbox"/>
TECH	CORR.	<input type="checkbox"/>

Appendix A-2
House Beautiful Letter

Laurence S. Jurman, Esq.

July 6, 1999



NELSON, POPE & VOORHIS, LLC
ENVIRONMENTAL • PLANNING • CONSULTING

LAURENCE S. JURMAN

ATTORNEY AND COUNSELLOR AT LAW

425 BROAD HOLLOW ROAD • SUITE 203

MELVILLE, NEW YORK 11747

(516) 777-1355

FAX (516) 777-1357

BY HAND

July 6, 1999

Department of Planning
and Environment
Huntington Town Hall
100 Main Street
Huntington, New York 11743

**Re: Five Towns College
Application for Amended Site Plan Approval
Proposed Dormitories**

Gentlemen:

Please be advised that this firm is counsel to House Beautiful at Dix Hills Homeowners Association, Inc. ("House Beautiful") and various residents of the Town residing within 500 feet of Five Towns College and its planned dormitories.

It has just recently come to the attention of House Beautiful that there is presently scheduled a regular meeting of the Planning Board on Wednesday, July 7, 1999, at which time the Board shall consider whether to issue a Positive Declaration to the above referenced Amended Site Plan, pursuant to the applicable provisions of the State Environmental Quality Review Act ("SEQRA"), and the regulations promulgated in connection therewith. 6 NYCRR 617 et. seq.

It is respectfully requested by House Beautiful, that the Planning Board adjourn this matter so as to afford our client the opportunity to fully investigate this matter and to be able to offer its well reasoned comments to the Planning Board as to a project that will most certainly significantly impact all members of the community.

We believe that our client's request for this adjournment, at this time, is reasonable, considering the fact that this matter now comes before the Planning Board without having first gone before the Zoning Board for a Special Use Permit pursuant to the provisions of Sections 198-66 and 198-68(12) of the Huntington Town Code. House Beautiful believes that the residents of the Town of Huntington should have been afforded the opportunity to be present at a Public Hearing, pursuant to the applicable provisions of Section 198-66, in light of the implications of the instant Amended Site Plan, as well as the provisions of Section 198-68(12) of the Code which clearly indicates that a Special Use Permit is required in this type of instance. As you may not be aware, House Beautiful previously sought an interpretation of the Town Code with respect to the

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PLANNING DEPARTMENT
TOWN OF HUNTINGTON, NY
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Huntington Planning Board
July 7, 1999
Page two (2)

applicability of a Special Use Permit to this proposed project. Such request by our client was met with a refusal by the Zoning Board to issue such an interpretative decision.

Given the foregoing, we believe that House Beautiful's present request for an adjournment of this matter, to afford it time to fully review the Amended Site Plan, and offer its studied comments to the Planning Board, is in the best interests of the residents of the Town of Huntington, who, heretofore, have not had a meaningful opportunity to be a part of the instant process. However, it must be noted that by requesting such adjournment, House Beautiful does not waive, and specifically reserves its rights, and the rights of its members, to subsequently object to the Town's erroneous procedure of not requiring the applicant herein to file for a Special Use Permit pursuant to the provisions of Section 198-66 of the Town Code.

In the event that the Planning Board refuses to entertain House Beautiful's instant request for an adjournment, our client respectfully urges that the Planning Board issue a Positive Declaration to the Plan and require the applicant to prepare and file a Draft Environmental Impact Statement, pursuant to the applicable provisions of SEQRA. While our client is loath to make such a request without a meaningful opportunity to fully review the Amended Site Plan and consult with an environmental expert in connection therewith, a refusal on the part of the Planning Board to delay determination of this matter will require House Beautiful to rely on the limited information it has previously been able to obtain in connection with this matter. Such limited information, the substance of which shall be recited below, requires the conclusion that is reached by House Beautiful, at this time, that a Positive Declaration is warranted.

As we are certain the Planning Board is aware, the procedures of SEQRA, set forth both in the statute and in its regulations promulgated at 6 NYCRR Part 617 are designed to establish a framework which assures that the potential environmental impacts of a proposed project are identified, evaluated and mitigated to the fullest extent possible. The procedures are so important that "no agency involved in an action may undertake, fund or approve the action until it has complied with the provisions of SEQRA." 6 NYCRR Section 617.3(a).

SEQRA requires the lead agency to show that it has identified all relevant areas of environmental concerns associated with a proposed action, that it has taken a "hard look" at those areas, and made a "reasoned elaboration" of its determination of environmental non-significance or significance. Chinese Staff and Workers Association v. City of New York, 68 N.Y.2d 359, 363, 509 N.Y.S.2d 499 (1986); Jackson v. New York State Urban Development Corp. 67 N.Y.2d 400, 417, 503 N.Y.S.2d 24 (1986).

Huntington Planning Board
July 7, 1999
page three (3)

Under SEQRA if the proposed project "has the potential for at least one significant adverse environmental impact", the lead agency must issue a positive declaration and "require" the preparation of an EIS. 6 NYCRR Section 617.7; See also Kahn v. Pasknik, 231 A.D.2d 568, 647 N.Y.S.2d 279 (2d Dept. 1996) ("Inasmuch as the proposed project [has] at least one possible significant impact on the environment (i.e., increased traffic), an environmental impact statement should have been prepared"), aff'd, 90 N.Y.2d 566, 664 N.Y.S.2d 584 (1997). Circumstances mandating the preparation of an EIS include, but are not limited to, a substantial change in solid waste production, 6 NYCRR Section 617.7(c)(1)(i); an adverse change in traffic; Id. and/or a substantial change in the intensity of an existing use, Id., Section 617.(i) (viii).

In the instant matter, it is clear from the documents and other information previously obtained by House Beautiful, that the Amended Site Plan will have not only one, but several significant environmental impacts. First, the Department of Planning Interoffice Memorandum of Richard J. Nielsen to Kenneth Fine, dated October 7, 1998 specifically indicated that, in connection with the present site plan, roadway mitigation would be required due to the continued "piecemeal" improvement of the subject site. Such a memorandum is clearly an acknowledgement by the Planning Department of not only the fact that the instant application will adversely impact traffic on the Town's roadways off-site, but that the Planning Department, or the employees thereof, are aware that the applicant has plans to conduct future improvements with respect to the site. House Beautiful is wondering if the applicant has fully disclosed the scope of these present plans for future site improvement and whether such plans have been taken into consideration in connection with the instant site plan. Specifically, with respect to these plans, annexed hereto for the Board's information, is a copy of the applicant's Web Site. At this Web Site, the applicant discloses to the public that it has plans for a "new library" facility as well as certain other unspecified "major campus improvements", "better accessibility" and "parking".

In addition to the Planning Department's own acknowledgement that the applicant's improvement plans are not limited to construction of dormitories and will significantly affect traffic as to require Town roadway mitigation, there are several other areas of concern that should be addressed prior to the Planning Board rendering its determination of environmental non-significance or significance. These include, but are not limited to: (1) whether there are sufficient support services in the surrounding community for dormitories; (2) whether the Site Plan Application is appropriate given the residential context of the surrounding community; and (3) the impact to the exiting community infrastructure (water service). With respect to #'s 1 & 2, House Beautiful believes that the presently exclusive residential character of the surrounding community and absence of any support services (i.e. laundry, student medical center, food service, taverns,

LAURENCE S. JURMAN, ESQ.

Huntington Planning Board
July 7, 1999
page four (4)

gas stations, etc.) for many miles, makes the location of dormitories at the site of Five Town's College inappropriate. Furthermore, House Beautiful believes that the location of such dormitories would most certainly adversely affect the economic value of the surrounding residential dwellings.

Even more importantly for the purposes of a preliminary environmental review, however, is #3, the affect the proposed site plan will have on the existing water supply and infrastructure. In this regard, information recently obtained by House Beautiful indicates that Dix Hills Water District is presently experiencing a significant water pressure problem. In this regard, it appears that during several days in June the water level in the storage tank on Wolf Hill Road dropped to 16 feet while the water level in the second water tank dropped to 20 feet. It is our client's understanding that a level of 10 feet is a critical level and that if one of the water pumps had gone out of service with the low levels as existed in June, or the District experienced a main break, or if a fire had occurred during this critical period, there could have been a serious water emergency, with severe consequences. House Beautiful is concerned as to the affect the addition of the proposed dormitories, and the intended residents thereof, will pose on the water supply given this already stressed resource. Our client is wondering as to whether the Planning Board has taken this factor into consideration in analyzing the instant application.

Based upon all of the foregoing, it is respectfully urged that the Planning Board adjourn consideration of the referenced Amended Site Plan Application for a period of several weeks, so as to afford our client a meaningful opportunity to investigate and comment thereon appropriately. In absence of same, it is strenuously urged that the Board find that the Application has significant environmental impacts, issue a Positive Declaration pursuant to the provisions of the State Environmental Quality Review Act, and require the Applicant to prepare and file an Environmental Impact Statement.

If you have any questions concerning this matter, please do not hesitate to contact the undersigned at any time.

Very truly yours,

LAURENCE S. JURMAN

LSJ:jl
encl.

LAURENCE S. JURMAN, ESQ.

Copies to:

Richard Machtay, Director of Planning
Hon. Frank Petrone, Supervisor
Tracey A. Edwards, Chairperson
Ellen Pagano, Vice Chairperson
W. Gerard Asher
Kirk Mackey
Mitchel Sommer
H. Jeffrey Virag



WHAT'S NEW

- [Commencement](#)
- [New Programs](#)
- [Dix Hills Center for the Performing Arts](#)
- [Concert with Gemini Youth Orchestras](#)

What's New

FTC is committed to cutting edge technology and programs, and thus, something is always in the works.

The recording and television studios are "works in progress," never really complete, always trying to incorporate new technology. Non-Linear editing is the buzz, and the studios are adding more of it all the time.



New programs in computers and music are in works, and the students are working hard in the gym to upgrade campus facilities for those who need to keep in shape.

Campus improvements include better accessibility and parking. State-of-the-art lighting equipment is being selected for the theater; programmable and MIDI interfaced.

Major campus improvements include plans for a new library, and better housing facilities for students.

By the Fall 1997 semester, a new local area network will connect to the colleges computer labs with the library, its on-line catalog, the internet and the world.

Check this page for new announcements from the College.

[What's New](#)
[Commencement](#)
[New Programs](#)
[Dix Hills Center for the Performing Arts](#)
[Concert with Gemini Youth Orchestras](#)

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email: info@fivetowns.edu | voice: +1 (516) 424-7000 ext. 110
[directions to five towns](#) | [site index](#)

7/1/99 9:

Appendix A-3
Intra-office Memorandum

Town Department of Planning and Environment


July 9, 1999



Town of Huntington
Department of
Planning and Environment
Intra-office Memorandum

DATE: July 9, 1999

TO: Tracey Edwards, Planning Board Chairman and
Members of the Planning Board

FROM: Charles J. Mangano, Environmental Planner for 
Richard Machtay, Director

RE: FIVE TOWNS COLLEGE (Amended Site Plan)
s/e/c Half Hollow Rd. & Burrs Lane,
& n/e/c Burrs Lane & L.I.E. North Service Rd., Dix Hills
SCTM # 0400-261-03-001.002 - Zoned R-40

The Planning Board reserved making a SEQRA determine of significance on the above referenced project during their July 7, 1999 meeting due to a July 6, 1999 letter from Laurence S. Jurman which raised questions about the project. In reference to the July 6, 1999 letter from Laurence S. Jurman, Esq., counsel to House Beautiful at Dix Hills Homeowners Association, Inc. (A.K.A. House Beautiful), please be advised of the following:

1. Mr. Jurman indicates the necessity of a Special Use Permit pursuant to §198-66 & §198-68A(12) of the Town Code and their [House Beautiful] objections to the Town's procedure of not requiring the applicant to file for said Special Use Permit pursuant to the provision of §198-66 of the Town Code. The Planning Board during their April 22, 1998 & April 29, 1998 meetings have already discussed the issue of a special use permit for the dormitory buildings. It was determined that such a proposal does not require a special use permit as the dormitories are clearly incidental to or customarily found in connection with and subordinate to the principal use as a college pursuant to §198-13B(7) of the Town Code.
2. Mr. Jurman implies that House Beautiful has not had "a meaningful opportunity to fully review the Amended Site Plan and consult with an environmental expert in connection therewith.". Although SEQRA is required to consider community and/or neighborhood character, it should be noted that until such time as the Planning Board as Lead Agency makes a determination of significance on the action, input from such a civic association is not a requirement but an option unless a Positive Declaration has been issued and the impact statement process has begun pursuant to SEQRA. In other words, pursuant to SEQRA, the public,

any civic associations or any non-permitting agency need not be involved in an action if a Negative Declaration is issued by the Planning Board as Lead Agency.

3. Mr. Jurman's letter states that "U[un]der SEQRA if the proposed project 'has the potential for at least one significant adverse environmental impact', the lead agency must issue a positive declaration and 'require' the preparation of an EIS. 6 NYCRR Section 617.7..." It should be noted that SEQRA also states that "To determine that an EIS will not be required for an action, the lead agency must determine either that there will be no adverse environmental impacts or that the identified adverse environmental impacts will not be significant" 6 NYCRR Section 617.7(a)(2). No doubt, the action may have the potential to pose impacts. However if those potential impact[s] will be mitigated to the greatest extent practicable and the project application has been designed to incorporate these mitigation measures, then said impacts may be viewed by the Lead Agency as not being significant. Whether impacts are considered significant are at the discretion of the Planning Board as the Lead Agency.
4. Mr. Jurman's letter talks about how the Planning Board should issue a Positive Declaration of Significance pursuant to SEQRA due to impacts relating to:
- a) a substantial change in solid waste production,
 - b) an adverse change in traffic,
 - c) a substantial change in the intensity of an existing use,
 - d) whether there are sufficient support services in the surrounding community for dormitories,
 - e) whether the Site Plan Application is appropriate given the residential context of the surrounding community,
 - f) the impact to the existing community infrastructure (water service).

Most of the above noted concerns are identified in the draft SEQRA EAF Parts II and III for Planning Board to review and evaluate prior to a determination of significance being made and, if the Planning Board wishes to incorporate this memorandum as an addendum to the EAF Parts II and III, the other above noted concerns have been addressed herein:

- a) **SOLID WASTE PRODUCTION** - It is true that the proposed action will generate increased solid waste. As specified in the EAF Part I, the subject parcel will generate an increase of 21.84± tons of solid waste per month. This is based upon a high estimate of a seven (7) pound per day increase for dormitory students (7 lbs/day x 208 dormitory students x 30 days/month ÷ 2,000 lbs/ton = 21.84 tons/month). As specified in the EAF Part I, the increased solid waste disposal will be carted to the Town of Huntington Resource Recovery Facility in East Northport. It is the

responsibility of the property owner to maintain their subject site, which includes removal of existing and proposed solid wastes by a recognized solid waste carting company. Any violation relative to temporary storage and/or disposal of solid waste will constitute a violation of the Suffolk County Sanitary Code. As such the issue of solid waste generation and disposal has been mitigated to the greatest extent practicable.

- b) CHANGE IN TRAFFIC - Mr. Jurman's letter references staff comments in an early October 7, 1998 Planning and Environment Department memorandum regarding possible roadway concerns and its "continued 'piecemeal' improvements". It should be noted that these comments were based upon an earlier version of the proposal plan when roadways and parking capacity depictions were in need of modifications. The plan has since been revised with intent on addressing these concerns to the greatest extent practicable.

It should also be noted that the issue of traffic for the subject application was specifically identified as not having a significant negative traffic impact by way of a June 8, 1999 memorandum from the Director of Engineering Services Division of Transportation and Traffic Safety who himself is a "Traffic Engineer". Said memorandum takes into consideration an anticipated increase in the number of students (23%+) and even goes so far as to state "that if the dormitories are intended to service current students, as opposed to increasing the student population, then there is a possibility that overall peak hour traffic generated by the college would actually decrease. In any event, I do not feel that there will be any significant negative traffic impact associated with the proposed project."

- c) CHANGE IN THE INTENSITY OF AN EXISTING USE - As had been stated in the EAF Parts II and III (item #20) "The applicant's EAF Part I states that the college is expecting an approximate twenty-three percent (23%) increase in students subsequent to the proposed dormitory expansion. The action will have the potential to increase demand for additional community services (e.g. police and fire, etc.). The action may also be viewed as creating a demand for smaller commercial uses to be established in the vicinity of the college. The action will also pose a slight change in population to the residentially developed neighborhood. As the Planning Board determined said use is permitted within the zone, potential impacts expected as a result of the action for said use is not anticipated to be significant. The EAF Part I specifies that the action is proposed to be a four (4) phase project anticipated to take place from September 1999 to January 2002; a duration of 29 months or approximately 2½ years. The EAF Part I indicates that the first phase is not functionally dependent on the following phases. Such an action may also be viewed as posing potential long term impacts relative to the duration of such a proposed construction development (i.e. increased construction vehicle volumes along local roadways, increased noise impacts, increased potential for air borne particulate matter during long site construction periods, increased erosion

potential, etc.) which may have a potential to affect the character of the existing residential neighborhood. As the applicant will be required to adhere to Town approved site plans and construction standards; any potential impacts relative to the above noted matters will be ameliorated to the greatest extent practicable."

- d) SUFFICIENT SUPPORT SERVICES IN THE SURROUNDING COMMUNITY FOR DORMITORIES - Please refer to 'c' above. Also note that Mr. Jurman's letter references that there will be an absence of the following support services: laundry, student medical center, food service, taverns, gas stations, etc. Some of these so-called support services do not appear to be support services at all but Mr. Jurman's interpretation of a support service. For example, how is a tavern considered to be a support service? Also, how is a gas station considered to be a support service? Does this mean that every college must contain within its grounds or surrounding neighborhood a tavern and gas station? Also, when someone compares the needs of a resident dormitory student to a commuting student, what student would have a greater need for a gas station? With regard to laundry, the applicant's plans depict at least one (1) laundry room per dorm building. As with the existing college facility, food service is handled via the existing college cafeteria and as with any State licensed college, there are typically on-site facilities that accommodate the emergency medical needs of both students, teachers and college employees. Whether or not this is Mr. Jurman's definition of a 'student medical center' is questionable. [The S.U.N.Y. at Stony Brook contains a Student Medical Center.] In either case, it appears as if the need for ALL of the above noted support services are unwarranted.
- e) APPROPRIATENESS OF THE SITE PLAN APPLICATION GIVEN THE RESIDENTIAL CONTEXT OF THE SURROUNDING COMMUNITY - As specified in Town Code and as determined by the Planning Board, the college use as well as its proposed accessory dormitory buildings are permitted within the zone. This application should not be viewed any differently than any other permitted college use with its accessory uses within a similar residential zoning district (i.e. Touro & Adelphi colleges/facilities).
- f) IMPACT TO THE EXISTING COMMUNITY INFRASTRUCTURE (WATER SERVICE) - The action would require a permit from the Dix Hills Water District to expand their water needs. Based upon the EAF Part I, the subject parcel would use approximately 23,850 gallons of water per day. Peak water usage is when residences water lawns, maintain swimming pools and garden ponds, etc. during the summer months when the college would not be fully active. Therefore the demands the college would impose on the water district during peak water usage seasons should not be onerous. The applicant would be required to procure the appropriate letter of water availability from the water district prior to any proposed development expansion.

5. Mr. Jurman's letter talks about taking a "hard look" and making a "reasoned elaboration" of its determination of environmental non-significance or significance pursuant to SEQRA. By way of the draft SEQRA EAF Parts II and III submitted to the Planning Board for their review and evaluation to include this memorandum as an addendum, these matters will be addressed.
6. Mr. Jurman's letter talks about how the college has disclosed plans via their Web Site for a "new library" facility as well as other unspecified "major campus improvements", "better accessibility" and "parking". Although these may be distant future plans for the college, this office can only review the application as currently proposed. The necessity of a segmented review does not appear warranted, as the other above noted proposals might not necessarily hinge on the current amended site plan proposal. Any future development proposals on the subject site will undergo SEQRA upon submission of the specific amended site plan application[s].

Appendix A-4
Town Planning Board Resolution and Negative Declaration

July 14, 1999



NELSON, POPE & VOORHIS, LLC
ENVIRONMENTAL • PLANNING • CONSULTING

HUNTINGTON TOWN PLANNING BOARD

MEETING OF JULY 14, 1999

The following resolution was offered by H. J. Virag

and seconded by W. G. Asher

WHEREAS, Five Towns College / Five Towns College Real Property Trust, 305 North Service Road, Dix Hills, New York 11746, submitted an amended site plan application for the Five Towns College property located on the southeast corner of Half Hollow Road and Burrs Lane, and the northeast corner of Burrs Lane and the Long Island Expressway North Service Road in Dix Hills, indicated as parcel 0400-261-03-001.002 on the Suffolk County Tax Map, and

WHEREAS, said amended site plan application was received on March 3, 1998, and

WHEREAS, said action is to construct four (4) 16,034 square foot dormitory buildings housing 52 students per dorm as well as provide 166 additional off-street parking stalls at the proposed Five Towns College facility located on a 33.6 acre parcel within an R-40 one acre Residence zone district, and

WHEREAS, as specified in the EAF Part I, said action is proposed to be a four (4) phase project anticipated to take place from September 1999 to January 2002, a duration of twenty-nine (29) months or roughly 2½ years, and the first phase is not functionally dependent on the following phases, and

WHEREAS, said site plan application is classified a Type I Action pursuant to SEQRA §617.4(b)(5)(ii), §617.4(b)(6)(i) and §617.4(b)(10), and

WHEREAS, the Planning Board has caused a review of the amended site plan to be made, pursuant to the New York State Environmental Conservation Law, Article 8, State Environmental Quality Review Act (SEQRA), and Part 617 of the implementation regulations (6 NYCRR Part 617), and

WHEREAS, the Huntington Town Environmental Review Division of the Planning and Environment Department, at the direction of the Planning Board, has reviewed the environmental information provided with Part I of the Full Environmental Assessment Form and has prepared a Full Environmental Assessment Form Parts II and III, and

SEQRA resolution

Five Towns College

WHEREAS, the Huntington Town Planning Board has conducted a complete review of all aspects of the Environmental Assessment Form Parts I, II and III and the facts presented thereby and the most recent plans, and

WHEREAS, all potential environmental impacts of the proposed action which were identified during the course of the review will be mitigated to the greatest extent practicable by plan design and/or will be minimized during subsequent review in accordance with applicable standards and regulations; now, therefore be it

RESOLVED, that finds that the requirements of SEQRA have been met and there will be no significant environmental impacts by virtue of this application and hereby issues a Negative Declaration, pursuant to SEQRA, based upon the Board's review of the Environmental Assessment data submitted, and be it further

RESOLVED, the Planning Board of the Town of Huntington hereby directs the Director of the Planning Department to file a Notice of Determination of Significance in the Environmental Notice Bulletin (ENB) in accordance with SEQRA 6 NYCRR Part 617 section 617.12 and that in doing so, the requirements of SEQRA have been met, and be it further

RESOLVED, that Parts I, II and III of the Full Environmental Assessment Form are on file in the Planning Department office and by reference made a part hereof.

VOTE:	4	AYES:	4	NOES:	2
CHAIRMAN VOTING		OPPOSED:	K. Mackey M. Sommer		

The resolution was thereupon declared to be duly adopted.

617.21
Appendix F

State Environmental Quality Review

NEGATIVE DECLARATION
Notice of Determination of Non-Significance

Project Number _____

Date July 14, 1999

This notice is issued pursuant to Part 617 of the implementing regulations pertaining to Article 8 (State Environmental Quality Review Act) of the Environmental Conservation Law.

The Town of Huntington Planning Board, as lead agency, has determined that the proposed action described below will not have a significant effect on the environment and a Draft Environmental Impact Statement will not be prepared.

Name of Action: **FIVE TOWNS COLLEGE (Amended Site Plan)**

SEQR Status: ☒ Type I
☐ Unlisted

Conditioned Negative Declaration: ☐ Yes
☒ No

Description of Action:

The action involves construction of four (4) 16,034 square foot dormitory buildings housing 52 students per dorm as well as provide 166 additional off-street parking stalls at the proposed Five Towns College facility located on a 33.6 acre parcel within an R-40 one acre Residence zone district. As specified in the EAF Part I, said action is proposed to be a four (4) phase project anticipated to take place from September 1999 to January 2002, a duration of twenty-nine (29) months or roughly 2½ years, and the first phase is not functionally dependent on the following phases. The subject parcel is substantially contiguous to a Town Designated Open Space Index Parcel identified as OSI # SE-22. Since the action will result in the physical alteration of more than 2½ acres, and the plans submitted by the applicant do not depict the dorm buildings connected to an existing sewerage system including a sewage treatment works (but independent subsurface sanitary disposal systems), pursuant to SEQR §617.4(b)(5)(ii), §617.4(b)(6)(i) and §617.4(b)(10), said action is classified Type I. By way of a July 14, 1999 resolution, the Planning Board as Lead Agency adopted a Negative Declaration determination of non-significance for said action.

Location: (Include street address and the name of the municipality/county. A location map of appropriate scale is also recommended.)

The subject property is located on the southeast corner of Half Hollow Road and Burrs Lane, and the northeast corner of Burrs Lane and the Long Island Expressway North Service Road in Dix Hills, within the Town of Huntington; indicated as parcel District 0400, Section 261, Elock 03, Lot 001.002 on the Suffolk County Tax Map.

SEQR Negative Declaration

Reasons Supporting This Determination:

Please refer to the attached July 14, 1999 Planning Board resolution and Environmental Assessment Form with attachments.

If Conditioned Negative Declaration, provide on attachment the specific mitigation measures imposed.

For further information:

Contact Person: Richard Machtay, Director of Planning, Planning Department
 Address: Huntington Town Hall, 100 Main Street, Huntington, New York 11743
 Telephone Number: 516-351-3196 Fax: 516-351-3257
 Email: rmachtay@town.huntington.ny.us

For Type I Actions and Conditioned Negative Declarations, a Copy of this Notice Sent to:

- ✓ Commissioner, Department of Environmental Conservation, 50 Wolf Road, Albany, New York 12233-0001
- ✓ Appropriate Regional Office of the Department of Environmental Conservation -- *Region I*
- ✓ Office of the Chief Executive Officer of the political subdivision in which the action will be principally located -- *Supervisor Frank Petrone*
- ✓ Applicant (if any)
- Other involved agencies (if any)
 - ✓ *Suffolk County Department of Health Services, Wastewater Management Division*
 - ✓ *Town of Huntington Town Clerk*
 - ✓ *Town of Huntington Department of Engineering Services*
 - ✓ *Town of Huntington Bureau of Fire Prevention*
 - ✓ *Town of Huntington Superintendent of Highways*
 - ✓ *Town of Huntington Conservation Board*
 - ✓ *Dix Hills Water District*

Appendix A-5
Resolution Approving Site Plan Application

Town Planning Board

May 24, 2000



HUNTINGTON TOWN PLANNING BOARD

MEETING OF MAY 24, 2000

The following resolution was offered by M. Sommer
and seconded by J. Tane

WHEREAS, FIVE TOWNS COLLEGE/FIVE TOWNS COLLEGE REAL PROPERTY TRUST, 305 North Service Road, Dix Hills, New York 11746, submitted an amended site plan application for four "Living and Learning Centers" as well as the southerly parking field expansion for **FIVE TOWNS COLLEGE**, located on the southeast corner of Half Hollow Road and Burrs Lane and the northeast corner of the North Service Road of the Long Island Expressway and Burrs Lane, Dix Hills, indicated as 0400-261-03-001.000 and 002.000 on the Suffolk County Tax map; and

WHEREAS, the Planning Board has reviewed said amended site plan, staff reports and other related papers, and has held a public hearing, and finds that the plan conforms in all respects to the requirements of the Building Zone Ordinance and the Subdivision Regulations and Site Improvement Specifications of the Town; and

WHEREAS, the Planning Board has caused a review of the amended site plan to be made pursuant to the State Environmental Quality Review Act (SEQRA) and has determined that there will not be any significant environmental impacts provided that all findings and recommendations of Part III of the SEQRA Environmental Assessment Form are met, and the Planning Board has issued a Negative Declaration and the SEQRA review is complete; now therefore be it

RESOLVED, that the Planning Board hereby approves said amended site plan application consisting of the following elements:

	<u>DATED</u>	<u>REVISED</u>	<u>RECEIVED</u>
Overall Site Plan	06/24/98	01/02/00	05/12/00
Alignment Plan	06/24/98	10/19/99	10/26/99
Parking Expansion Alignment Plan	10/14/98	10/19/99	10/26/99
Grading and Drainage Plan	06/24/98	10/19/99	10/26/99

FIVE TOWNS COLLEGE
SITE PLAN APPROVAL

MAY 24, 2000
PAGE 2

	<u>DATED</u>	<u>REVISED</u>	<u>RECEIVED</u>
Parking, Expansion Grading & Drainage Plan	10/14/98	10/19/99	10/26/99
Utility Plan	06/24/98	10/19/99	10/26/99
Enlarged Plans	06/24/98	10/19/99	10/26/99
Partial Landscape Plan	06/24/98	08/24/99	09/10/99
Partial Expansion Plan	10/14/98	-----	09/10/99
Site and Utility Details	06/24/98	10/19/99	10/26/99
Site Details	10/14/98	10/19/99	10/26/99
Building One, Floor and Elevations Plan A1	04/12/99	06/08/99	06/29/99
Building Two, Floor and Elevations Plan, A2	04/12/99	06/08/99	06/29/99
Building Three, Floor and Elevations Plan, A3	04/12/99	06/08/99	06/29/99
Building Four, Floor and Elevations Plan, A4	04/12/99	06/98/99	06/29/99

and be it further

RESOLVED, that this approval is for the four (4) "Living and Learning Centers" and the areas providing access to them, and for the parking field expansion on the southerly portion of the site, and is in no way an approval for a library and courtyard whose possible future location has been preliminarily identified in the westerly portion of the site between the school building and Burrs Lane; that the applicant shall supply copies of all the above referenced approved plans, in addition to the normally required items, to the Department of Engineering Services when applying for building permits; that the findings set forth in the Negative Declaration Resolution shall be fulfilled prior to the issuance of a Certificate of Occupancy; and finally that no Certificate of Occupancy shall be issued until the site has been inspected by representatives of the Planning Department to ensure compliance with all Planning Board requirements.

VOTE: 6

AYES: 6

NOES: 0

The resolution was thereupon declared to be duly adopted.

**Appendix A-6
Hearing Transcript**

ZBA

June 6, 2002



TOWN OF HUNTINGTON, STATE OF NEW YORK
BOARD OF ZONING & APPEALS

DECISIONS

June 6, 2002

100 Main Street
Huntington, New York
7:00 p.m.

B E F O R E :

CHRISTOPHER MODELEWSKI, CHAIRMAN

IRA KURTZBERG

PAUL W. ROUSSILLON

CAROL GAUGHRAN

ALICIA LAWRENCE

ROBERT SLINGO

JAMES F. MATTHEWS, ATTORNEY TO BOARD

DEBORAH J. HANSEN,
Official Court Reporter

1
2 MR. CHAIRMAN: We'll call this meeting
3 to order. There is a quorum present. There are
4 four members of the Zoning Board of Appeals, as
5 well as the Planning Direct, Richard McTay.

6 We are convening a little bit before
7 the public portion or the official public
8 portion of the meeting with respect to the
9 question of environmental significance
10 concerning Five Towns College, and the
11 application for dormitories which are
12 conditionally permitted uses in the R-40 zone.

13 We have had, for the past week, the
14 materials that in 1999, were forwarded by the
15 Planning staff to the Planning Board for their
16 consideration in terms of making a determination
17 on significance.

18 However, there are substantial
19 differences in our charge under the State
20 Environmental Quality Review Act, simply because
21 this is not an absolutely permitted use, it's a
22 conditionally permitted use, and our
23 jurisdiction is different than the Planning
24 Board because we are charged with making
25 determinations, not merely on the sufficiency of

1
2 the site plan, but on whether or not we ought to
3 grant the special permit under the strictures of
4 our code.

5 I think we should note at the outset
6 that when we talk about any of the factors
7 enumerated in the regulations and that we are
8 compelled to consider, that we don't have
9 anything in our town to compare this use to.
10 The closest thing that we have probably is a
11 building that is adjacent to the Touro Law
12 School, which is standing alone and not part of
13 the law school, is either a congregate care
14 facility or a nursing home; right, Rich?

15 MR. McTAY: That's what it was
16 originally approved as. But, it's now 44
17 apartments and the school uses it to house
18 students. But, the school doesn't own it. I
19 think they have an arrangement with the property
20 owners.

21 MR. CHAIRMAN: Okay, and I guess the
22 point being that it was not developed along with
23 traditional college classroom facilities on a
24 traditional college campus.

25 The only other thing we have is the

1
2 Immaculate Conception Seminary in Lloyd Harbor
3 on 200 acres of the most expensive real estate
4 in the country, or at least on the east coast,
5 which houses about five seminarians, and, if we
6 want to consider it, I guess we can think about
7 it for a brief millisecond, is the Friends World
8 College in Lloyd Neck. They have a couple of
9 kids.

10 MR. MCTAY: That's gone.

11 MR. CHAIRMAN: Suffice it to say, we
12 have limited experience with college dormitories
13 and in many respects, this is a case of first
14 impression for us.

15 Having said that, I went through the
16 materials that were forwarded by the Planning
17 Department back in 1999, and I have some
18 concerns with respect to a number of issues.

19 I am familiar with the junior high
20 school property, and the building, I used to
21 play softball there. My estimate, based upon
22 information furnished to us by the Planning
23 Department, and also gleaned from the Five Towns
24 College website is that about three acres, or at
25 best, three-and-a-half acres of the 33.6 acres

1
2 at the Old Burr Lane Junior High School are
3 developed. So, there is a great deal of
4 undeveloped property at the site.

5 My concern is, not merely that the
6 undeveloped property exists, but that there is
7 certain questions that I believe were raised by
8 the Planning staff back in 1999 concerning
9 future development plans. One centers around
10 whether or not the college plans a library
11 expansion and there also, apparently, were some
12 amorphous statements or thoughts concerning
13 other expansions.

14 My concern in that regard is that we
15 not conduct a segmented review and if there are
16 indeed other plans that the college has with
17 respect to development at the Old Burr Lane
18 Junior High School, that we are sufficiently
19 informed as to the long range plan, and we don't
20 make judgments based upon a segmented approach.

21 The scope of the development seems to
22 me to be significant in that there is about
23 120,000 square feet already developed which is
24 the old junior high school, and the proposal,
25 with respect to the building and the uses for

1
2 another 64,000 square feet of space.

3 The other thing that occurs to me,
4 since it wasn't all that long ago that I was in
5 college, that although there is a statement made
6 by the applicant with respect to the number of
7 students expected, we don't have information
8 concerning how many students are enrolled, or at
9 least, I didn't see any information about how
10 many students per room. The whole number
11 represented. Why do I say that? Because I
12 remember being a freshman and being in what is
13 popularly known as a triple. So, I have
14 concerns of whether 200 or 205 students is a
15 real number or if, in fact, it was something in
16 excess of that.

17 There was a notation made in the
18 Planning memo concerning, I believe some
19 designated open space in close proximity to the
20 college property. Perhaps Rich would like to
21 comment on that, and what impact, if any, this
22 proposed development would have on that.

23 MR. McTAY: You know there are a
24 number of sites around there that -- let me see
25 that.

1
2 That's a site on the open space index,
3 and I'm just not familiar with the index
4 offhand. But, there are a number of sites in
5 the Dix Hills and Melville area that are on the
6 open space list.

7 The open space index is private
8 property. It doesn't belong to the Town or any
9 government. There is property that was surveyed
10 by the Conservation Commission back in the early
11 1970's, and having done that, they became the
12 Conservation Board, pursuant to certain status
13 and State Laws. They had the jurisdiction to
14 review the properties that are on that index.
15 The school property is not on that index, and
16 it's a different piece of property.

17 But, could I say one more thing?

18 MR. CHAIRMAN: Please do.

19 MR. McTAY: It's my understanding that
20 the school has expanded the program since the
21 Planning Board reviewed this. That is to say,
22 that now -- it was only for the arts and music
23 and theater before, and I do believe now that
24 they are giving a business degree, which they
25 were not giving before, or something like that.

1
2 So, they have expanded their program or they
3 have expanded into other fields.

4 MS. GAUGHRAN: Becoming more of a
5 liberal arts school?

6 MR. MCTAY: That may be something to
7 ask. They also bestowed a doctorate and
8 honorary doctorate on what used to be Mrs.
9 Bradley, and she is now referred to as Dr. Sonia
10 Bradley.

11 MR. CHAIRMAN: Well, my point in
12 raising the issues that I raised is this: We're
13 charged with determining significance. We don't
14 have a lot of experience with college
15 dormitories.

16 The parcel, although it sounds large,
17 of 33.6 acres, is really not so large, when you
18 think of the acreage for a small liberal arts
19 college. So, I would like to elicit comments
20 from the rest of you with respect to the
21 question of significance under the regulations
22 and ask you if we're looking at, for instance, a
23 substantial change in the intensity of use, the
24 introduction of the additional students, or in
25 the alternative, and these are the two that jump

1
2 out to me.

3 If we are comparing the neighborhood,
4 comparing the neighborhood character and whether
5 or not we should consider that in making a
6 determination of significance.

7 MR. SLINGO: I think we should
8 definitely consider the effects on the
9 neighborhood, because that's one of the things
10 we're supposed to do. I just want to clarify
11 one thing. I know that there was -- there has
12 been activity with regard to building these
13 dormitories that are existing already without
14 the proper permits, and before they had the
15 proper approvals. What happens with that issue?

16 MR. CHAIRMAN: Well, I know that we
17 revoked the building permits. They can build
18 buildings. The question before us is the use.
19 What we're really charged with under the law is
20 making a determination of significance based
21 upon the action before us, which is the
22 intention to house people in a fairly high
23 density environment, in what otherwise is a low
24 density district. It's an R-40 district. It's
25 the second most dense or least dense district

1
2 that we have in the town.

3 You know, we have -- back when we had
4 special use permit jurisdiction with respect to
5 congregate care facilities, we were confronted
6 with similar decisions, and whether or not we
7 thought that, certainly, apartment houses in one
8 case also in an R-40 zone was an environmentally
9 significant event that warranted the preparation
10 and presentation of an environmental impact
11 statement. So, our question really is, does
12 this use compel us to require the applicant to
13 take a -- for us to take a hard look, and for us
14 to require the applicant to prepare an
15 environmental impact statement so we are fully
16 apprised of, and the community is fully apprised
17 of all of the issues that can be identified in
18 terms of the environment and that we carry out
19 our job in terms of mitigating any of those
20 issues that can be mitigated.

21 MR. SLINGO: Now, has the applicant
22 submitted or re-submitted an application after
23 we revoked the permit?

24 MR. CHAIRMAN: They submitted a
25 special use permit application. That's what

1
2 they're asking for. That's what we litigated up
3 to the Appellate Division. Their position was,
4 they had a right, as unconditionally permitted
5 use, to have a college dormitory or in this
6 case, dormitories. We disagreed with that. It
7 was litigated before the Supreme Court and the
8 Appellate Division, and the Appellate Division
9 agreed with us that dormitories could only be
10 used as dormitories with a special use permit.

11 MR. SLINGO: That's what we're to
12 decide.

13 MR. ROUSSILLON: Ultimately.

14 MR. CHAIRMAN: The threshold
15 significance is, we need to make a determination
16 of environment significance or non-significance.

17 MS. GAUGHRAN: Are we still dealing
18 with the 1999 site plan and are we dealing with
19 the 1999 environmental impact statement that
20 they filed or is there something new that we
21 haven't gotten?

22 MR. CHAIRMAN: We'll get a new EIS.

23 MR. MCTAY: Based on your
24 jurisdiction.

25 MR. ROUSSILLON: Why isn't Planning

1
2 the lead agency?

3 MR. SLINGO: We have to give the
4 special use permit.

5 MR. CHAIRMAN: Because we give --

6 MR. ROUSSILLON: They're the ones that
7 have site plan review, and all the rest of that.
8 I suppose they have to come to us first. I
9 answered my own question.

10 MR. SLINGO: There are no other like
11 college dormitories. These are what, four or
12 five stories?

13 MR. CHAIRMAN: What is the height
14 issue?

15 MR. McTAY: Three stories.

16 MR. ROUSSILLON: They appear to be --

17 MS. GAUGHRAN: Do they follow the 35
18 foot maximum height for the town?

19 MR. CHAIRMAN: I don't know, I haven't
20 seen any plans. But, you know they're big
21 buildings. They can build the buildings on the
22 property. It's just the use that we have to
23 consider.

24 MR. SLINGO: I know they have been
25 advertising very heavily in special sections of

1
2 newspapers. I have seen TV ads and things like
3 that. They are -- it looks like they're on a
4 very eager expansion plan.

5 MR. CHAIRMAN: Well, I just think that
6 we have an obligation to determine whether or
7 not we're conducting a segmented review based
8 upon what maybe we're being told or not being
9 told, and the fact that there is some ambiguity
10 in the record concerning whether or not there is
11 a library expansion plan, as part of the
12 project. That is troubling to me.

13 MS. GAUGHRAN: That concerned me
14 greatly when I was reviewing this as well. In
15 that the Planning Department, the memo that I
16 was reading from 1999 felt that they were not
17 given the ability to request an overall view.

18 MR. MCTAY: What happened was, they
19 gave us a plan. The initial plan that they gave
20 us showed -- you know how the lines are dark on
21 the plan? It showed us sort of a ghost of a
22 line of a future library. The staff reviewed it
23 and said it looks like they're going to do
24 something here. Mr. Goldstein tried to make a
25 case in front of the Planning Board that the

1
2 SEQRA review covered the library also. So, we
3 would be safe down the line.

4 MS. GAUGHRAN: That would be the
5 sarcastic memo mentioned in here?

6 MR. McTAY: So, the staff wrote back
7 another memo saying, no, we specifically wrote
8 that out of it. Take it off the plan
9 altogether. Don't show it, and then the school
10 denied that they would build a library.

11 MR. KURTZBERG: Do we get the feeling
12 that they want to do what they want to do, and
13 let the plans be damned, so to speak?

14 MR. McTAY: If we don't show it now,
15 we'll do it later. We won't show it. So, we're
16 not going to do it, and then we decide to do it.

17 MR. ROUSSILLON: It might not require
18 SEQRA at all by that time.

19 MS. GAUGHRAN: Because the more they
20 intensify the use, the less impact the
21 additional building will have.

22 MR. McTAY: Well, as the Chairman here
23 said, you are segmenting it, and the less time
24 it comes up, it's less of an impact because it's
25 a smaller expansion, and the next time, it's

1 something else. I think the staff also wrote
2 about access to the Expressway, and there is
3 frontage on the Expressway. But, they
4 absolutely won't open it up. Now, that could
5 end up being a cut-through.
6

7 MS. LAWRENCE: That's one of the
8 things that concerns me. They have an
9 aggressive expansion plan. I would like to see
10 a concrete long-range plan. Comprehensive plan
11 for their offerings and for their projected
12 building.

13 MR. CHAIRMAN: Like that, that might
14 be included in an environmental impact
15 statement.

16 MS. GAUGHRAN: It would be my feeling
17 as Zoning Board of Appeals, that is what we are
18 responsibly charged with, is to not do tiny,
19 little zoning applications if there is a
20 legitimate long-term plan, and it seems to me
21 that there is something in someone's mind, and
22 in fact, in reviewing these the other day, I was
23 thinking that there was a building on someone's
24 desk somewhere, that there is a little toothpick
25 plan of what this whole thing is going to look

1
2 like. The future thing under a glass box?

3 MR. CHAIRMAN: You just think it's in
4 a secret room.

5 MS. LAWRENCE: If they're expanding
6 the re-offerings, and they do not have a plan
7 for the library, that library is going to keep
8 expanding as their degree offerings expand.

9 MR. SLINGO: We should determine what
10 long term plan they have.

11 MS. GAUGHRAN: We need to do that, to
12 suggest that we need a full environmental impact
13 statement. That would be my thought as the
14 SEQRA officer.

15 MR. McTAY: I think the Chairman hit
16 something on the head a few minutes ago. He is
17 absolutely correct. Mr. Matthews and I
18 discussed it this afternoon. Mr. Matthews, I
19 think they're the same thing. If I'm putting
20 words in anybody's mouth, shut me up, but that
21 you are really charged with determining whether
22 the use is appropriate. Not the site plan. The
23 Planning Board is charged with the site plan.
24 You are charged with whether the use is
25 appropriate in those location, and given all of

1
2 the land they have, and the facilities they
3 have, are they really telling you everything?
4 Because that use will keep growing and growing
5 and growing.

6 MR. CHAIRMAN: You know, also what is
7 troubling is that we're already stuck with the
8 buildings where they are. So that if this came
9 to us as a clean slate application, and you were
10 being asked to consider the use and to determine
11 whether or not the applicant made out its case,
12 under the requirements in the statute, we might
13 have some thoughts about where the building
14 should be located in order to make the impact,
15 if any, less substantial with respect to the
16 surrounding conforming residential development.

17 That decision has been taken away from
18 us, effectively, by what the applicant did.

19 MR. ROUSSILLON: And, we're in a box.

20 MR. CHAIRMAN: We're in a box, and I
21 don't think that it's unreasonable of us, being
22 in the box, to ask that a more comprehensive and
23 accurate picture of what is intended, and what
24 could be presented as alternatives should be
25 made known.

1
2 MR. KURTZBERG: You should have them
3 join us in the box and let them spell out
4 everything that they intend to do as far as the
5 future plans, development, expansion and
6 everything else.

7 MR. CHAIRMAN: We'll make the box big.
8 It will be an accommodating open box, but yes.
9 So, let's maybe dispense with the crude
10 analogies.

11 Carol, do you have a motion?

12 MS. GAUGHRAN: I move that we move
13 this would be a positive declaration.

14 Mr. Attorney, am I saying this
15 correctly?

16 MR. MATTHEWS: In other words, you are
17 moving that pursuant to SEQRA regulations --

18 MS. GAUGHRAN: Pursuant to SEQRA
19 regulations, that --

20 MR. MATTHEWS: Based upon --

21 MS. GAUGHRAN: Based upon our decision
22 and based upon reading the Planning memo and
23 discussions with the Director of Planning, I
24 move that we state that this is a positive
25 declaration, and we ask for a full environmental

1
2 assessment.

3 MR. MATTHEWS: A DEIS, draft
4 environmental statement.

5 MR. CHAIRMAN: Anybody have a second?

6 MR. SLINGO: I second that motion.

7 MR. CHAIRMAN: Seconded by Mr. Slingo.
8 All in favor?

9 MR. KURTZBERG: Aye.

10 MR. ROUSSILLON: Aye.

11 MS. GAUGHRAN: Aye.

12 MS. LAWRENCE: Aye.

13 MR. SLINGO: Aye.

14 MR. CHAIRMAN: Aye.

15 MR. MATTHEWS: We'll prepare a formal
16 resolution.

17 MR. McTAY: It's unanimous.

18 Mrs. Gaughran moved it and Mr. Slingo
19 seconded.

20 [Whereupon, the matter was concluded.]

21 * * * *

22

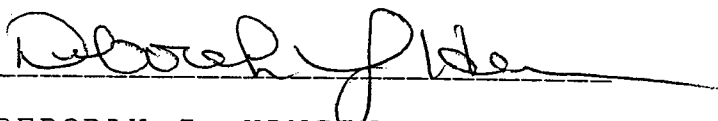
23

24

25

C E R T I F I C A T I O N

I, DEBORAH J. HANSEN, an Official Court
Stenographer, hereby certify that the foregoing is a
true and accurate transcription of the stenographic
notes taken herein.



DEBORAH J. HANSEN,
Official Court Stenographer

Appendix A-7
EAF Part 3, Resolution and Positive Declaration

ZBA

6/12/2002



RESOLUTION OF THE
TOWN OF HUNTINGTON
ZONING BOARD OF APPEALS
6/12/2002

This resolution was moved by Carol Gaughran

and seconded by Robert Slingo

WHEREAS, an application number 17318 was made to the Town of Huntington Zoning Board of Appeals on 5/8/2002 and pursuant to the SEQRA regulations §617. the applicant submitted an Environmental Assessment Form Part I; and

WHEREAS, said application is classified Type I pursuant to the SEQRA regulations §617. 4(b)(10), and the proposal has been duly coordinated, establishing the Zoning Board of Appeals as lead agency or for Unlisted Actions where an uncoordinated review is warranted the Zoning Board of Appeals is the lead agency; and

WHEREAS, the Staff of the Town of Huntington Department of Planning and Environment has prepared an Environmental Assessment Form Part II and found that a Part III is also needed and has been prepared ; and

NOW THEREFORE BE IT

RESOLVED, that the Town of Huntington Zoning Board of Appeals hereby adopts the Environmental Assessment Form Part II and if one is necessary Part III, and hereby issues a Positive Declaration pursuant to the SEQRA regulations; and

BE IT FURTHER

RESOLVED, that the Director of the Department of Planning and Environment is hereby directed to prepare all filings necessary to comply with this resolution and the SEQRA regulations.

VOTE:7

YES: 6

NO:

ABSTANTIONS:1

Absent:

Not Voting: Steven Schnittman

This resolution was thereupon duly adopted.

SEQR

14-12-6 (2/87)-90

617.21
Appendix E
State Environmental Quality Review
POSITIVE DECLARATION
Notice of Intent to Prepare a Draft EIS
Determination of Significance

Date June 13, 2002

Project Number _____

This notice is issued pursuant to Part 617 of the implementing regulations pertaining to Article 8 (State Environmental Quality Review Act) of the Environmental Conservation Law.

The Town of Huntington Zoning Board of Appeals, as lead agency, has determined that the proposed action described below may have a significant effect on the environment and that a Draft Environmental Impact Statement will be prepared.

Name of Action: **FIVE TOWNS COLLEGE (Zoning Board of Appeals Application ZBA # 17318)**

SEQR Status: ☒ Type I
☐ Unlisted

Conditioned Negative Declaration: ☐ Yes
☒ No

Description of Action:

The review by the Town Zoning Board of Appeals is for a conditionally permitted use as per Town Code § 198-68A(12) in which the applicant has requested no variances. The action proposes dormitory use within four (4) structures previously reviewed and approved by the Planning Board. The 33.6 acre subject property is within an R-40 one acre Residence zone district. The property contains a 120,000 square foot school building and obtained Planning Board Amended Site Plan approval to construct four (4) 16,034 square foot buildings on roughly 3.12 acres of existing forested area within the northwest corner of the subject property. The four (4) buildings are of a two (2) story/three (3) floor design on varied topography. The Planning Board's amended site plan approval identified that the subject property's existing southern parking lot will also be expanded further to the south to accommodate an additional 166 parking stalls. Regardless of use, the site plan reviewed and approved by the Planning Board required no variances.

The subject property on which the action is proposed is substantially contiguous to a Town designated open space parcel listed on the Town's Open Space Index as OSI # SE-22. As the use for said action could result in the physical disturbance of more than 2½ acres, pursuant to SEQRA §617.4(b)(5)(ii), §617.4(b)(6)(i) and §617.4(b)(10), said action is Classified Type I.

The Town Zoning Board of Appeals as Lead Agency issued a Positive Declaration determination of significance for said action via adoption of a resolution during their June 13, 2002 meeting.

Location: (Include street address and the name of the municipality/county. A location map of appropriate scale is also recommended.)
The subject property is located on the southeast corner of Half Hollow Road and Burrs Lane, and the northeast corner of Burrs Lane and the Long Island Expressway North Service Road in Dix Hills, indicated as parcel District 0400, Section 261, Block 03, Lot 001.2 on the Suffolk County Tax Map.

JUN-14-2002

06/14/02 16:02 FAX 516-424-1424

SEQR Positive Declaration

Reasons Supporting This Determination:

Please refer to the attached June 13, 2002 Zoning Board of Appeals resolution and SEQRA EAF Parts I, II, & III with attachments.

For further information:

Contact Person: Christopher Modelewski, Zoning Board of Appeals Chairman
 Address: Huntington Town Hall, 100 Main Street, Huntington, New York 11743
 Telephone Number: 631-351-3123 Fax: 631-351-3108
 Email: rmachtay@town.huntington.ny.us

A Copy of this Notice Sent to:

- ✓ Commissioner, Department of Environmental Conservation, 50 Wolf Road, Albany, New York 12233-0001
- ✓ Appropriate Regional Office of the Department of Environmental Conservation -- *Region I*
- ✓ Office of the Chief Executive Officer of the political subdivision in which the action will be principally located -- *Supervisor Frank Patrone*
- ✓ Applicant (if any)

Other involved agencies (if any)

- ✓ New York State Department of Transportation
- ✓ Suffolk County Planning Department
- ✓ Suffolk County Department of Health Services, Wastewater Management Division
- ✓ Suffolk County Department of Health Services, Office of Ecology
- ✓ Suffolk County Department of Health Services, Office of Pollution Control
- ✓ Suffolk County Department of Public Works
- ✓ Town of Huntington Planning Board
- ✓ Town of Huntington Town Clerk
- ✓ Town of Huntington Department of Engineering Services
- ✓ Town of Huntington Bureau of Fire Prevention
- ✓ Town of Huntington Superintendent of Highways
- ✓ Town of Huntington Conservation Board
- ✓ Dix Hills Water District
- ✓ South Huntington Water District

Part 3 - Evaluation of the Importance of the Impact(s) of the Project

Part 3 must be prepared if one or more impact(s) is considered to be potentially large, even if the impact(s) may be mitigated.

Instructions

1. Briefly describe the impact.
2. Describe (if applicable) how the impact could be mitigated or reduced to a small to moderate impact by project changes(s).
3. Based on the information available, decide if it is reasonable to conclude that this impact is important.
 - To answer the question of importance, consider:
 - The probability of the impact occurring
 - The duration of the impact
 - Its irreversibility, including permanently lost resources of value
 - Whether the impact can or will be controlled
 - The regional consequence of the impact
 - Its potential divergence from local needs and goals
 - Whether known objections to the project relate to this impact.

(Continue on attachments)

Huntington Town Zoning Board of Appeals	
Name of Lead Agency	Chairman
Christopher Modelewski	Title of Responsible Officer (or Designee)
Name of Responsible Officer (or Designee) in Lead Agency	Prepared by Staff of the Planning & Environment Department
Signature of Responsible Officer (or Designee) in Lead Agency	Signature and Title of Preparer, Parts II & III

ZBA # 17318 - Five Towns College
ENVIRONMENTAL ASSESSMENT FORM
PARTS III

SEQRA CLASSIFICATION

The subject property on which the action is proposed is substantially contiguous to a Town designated open space parcel listed on the Town's Open Space Index as OSI # SE-22. As the use for said action could result in the physical disturbance of more than 2½ acres, pursuant to the criteria under 6 NYCRR, specifically §617.4(b)(5)(ii), §617.4(b)(6)(i) and §617.4(b)(10), said action is classified as a Type I Action pursuant to SEQRA.

SUBJECT ACTION

The review by the Town Zoning Board of Appeals is for a conditionally permitted use as per Town Code § 198-68A(12) in which the applicant has requested no variances. The action proposes dormitory use within four (4) structures previously reviewed and approved by the Planning Board. See Project Description below.

PROJECT DESCRIPTION

The 33.6 acre subject property is within an R-40 one acre Residence zone district and is located on the southeast corner of Half Hollow Road and Burrs Lane, and the northeast corner of Burrs Lane and the Long Island Expressway North Service Road in Dix Hills, indicated as SCTM # 0400-261-03-001.2. The 33.6 acre subject property contains a 120,000 square foot school building and obtained Planning Board Amended Site Plan approval to construct four (4) 16,034 square foot buildings on roughly 3.12 acres of existing forested area within the northwest corner of the subject property. The four (4) buildings are of a two (2) story/three (3) floor design on varied topography. The Planning Board's amended site plan approval identified that the subject property's existing southern parking lot will also be expanded further to the south to accommodate an additional 166 parking stalls. Regardless of use, the site plan reviewed and approved by the Planning Board required no variances.

POTENTIAL ENVIRONMENTAL IMPACTS

Please note that the June 6, 2002 Zoning Board of Appeals (ZBA) minutes for the subject application (which references earlier Planning documents) has been made a part of this EAF Part III by reference. The main issues of concern outlined in the June 6, 2002 ZBA minutes are as follows:

- Impacts on character of the neighborhood,
- Issues relating to possible open space impacts,
- A substantial change in the intensity of use consequential to the addition of proposed on-site dormitory use,

Continue Next Page
Date Printed: June 12, 2002

17318 - Five Towns College

- Full disclosure by the applicant of any and all future short and long-term plans that would potentially increase the use of the school, including the possibility of a future library addition, thus avoiding a segmented environmental review
- Changes in college course curriculum (to include business degrees) that could in turn pose a potential increase in the number of students that would attend the college,
- The potential for adverse neighborhood traffic concerns, and
- Concerns regarding the possibility of future site access directly to the Long Island Expressway (L.I.E.) North Service Road.

The issues of concern identified above and in the June 6, 2002 Zoning Board of Appeals (ZBA) minutes identifies the potential for significant impacts that has not yet been adequately addressed or mitigated via the information submitted by the applicant. The ZBA minutes indicates that if there are indeed other plans the college has with respect to development on the 33.6-acre subject property, the ZBA must be sufficiently aware of these long-term plans and therefore, can not conduct a segmented review.

To yield a full appraisal of all potential impacts related to the subject application, any mitigation thereto, and to make the community apprised of all the issues pertaining to the subject property, the applicant must prepare an environmental impact statement to address all items of concern as outlined in the June 6, 2002 ZBA minutes and in this EAF Part III.

END
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Date Printed: June 12, 2002

Appendix A-8
Final DEIS Scope

August 20, 2002



NELSON, POPE & VOORHIS, LLC
ENVIRONMENTAL • PLANNING • CONSULTING



TOWN OF HUNTINGTON

FRANK P. PETRONE, *Supervisor*

ZONING BOARD OF APPEALS

CHRISTOPHER MODELEWSKI, Chairman
ROBERT F. SLINGO, Vice-Chairman
PAUL W. ROUSSILLON, Secretary

MEMBERS

CAROL GAUGHRAN
IRA B. KURTZBERG
ALICIA LAWRENCE
STEVEN N. SCHNITTMAN

SPECIAL COUNSEL

JAMES F. MATTHEWS

August 20, 2002

Goldstein, Rubinton, Goldstein & Defazio
18 West Carver St.,
Huntington, NY 11743

Laurence S. Jurman
425 Broad Hollow Rd., Suite 203
Melville, NY 11747

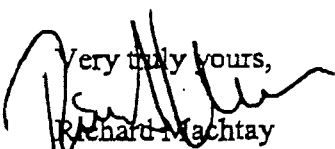
Re: Five Town College, Final Scope

Dear Sirs:

Enclosed please find adopted Final Scope for ZBA Application #17318, Five Towns College.

We will await submission of DEIS.

Very truly yours,


Richard Machtay
Director

RESOLUTION OF THE
TOWN OF HUNTINGTON
ZONING BOARD OF APPEALS
8/15/2002

This resolution was moved by

and seconded by

WHEREAS, an application number 17318 was made to the Town of Huntington Zoning Board of Appeals on 5/8/2002 and pursuant to the SEQRA regulations §617. the applicant submitted an Environmental Assessment Form Part I; and

WHEREAS, said application is classified Type I pursuant to the SEQRA regulations §617. 4(b)(10), 617.4(b)(5)(ii), and 617.4(b)(6)(i), and the proposal has been duly coordinated, establishing the Zoning Board of Appeals as lead agency; and

WHEREAS, the Staff of the Town of Huntington Department of Planning and Environment has prepared an Environmental Assessment Form Part II and found that a Part III is also needed and has been prepared; and

WHEREAS, by way of a 6/13/2002 resolution, the Zoning Board of Appeals issued a Positive Declaration pursuant to the SEQRA regulations on said action; and

WHEREAS, the applicant submitted a draft scoping checklist which was advertised in local publications on 7/18/2002 to include an opportunity for public participation; and

WHEREAS, staff of the Planning and Environment Department prepared an 8/8/2002 memorandum (which includes attachments) to the Zoning Board of Appeals which discusses possible revisions to the above noted draft scope; and

WHEREAS, the applicant submitted a revised draft scope (received on August 15, 2002) that incorporates some of the concerns identified in the 8/8/2002 memorandum from the Planning and Environment Department to the Zoning Board of Appeals;

NOW THEREFORE BE IT

RESOLVED, that the Town of Huntington Zoning Board of Appeals has evaluated the above noted documents and hereby adopts both the draft scope (received on August 15, 2002) submitted by the applicant and amended by the Board and the 8/8/2002 memorandum from the Planning and Environment Department to the Zoning Board of Appeals (which includes attachments) and amended by the Board as being the FINAL SCOPE for the subject application; and

BE IT FURTHER

RESOLVED, that the Town of Huntington Zoning Board of Appeals hereby directs the applicant to prepare and submit a draft EIS consistent with the final scope.

VOTE: 6 YES: 6 NO: 0 ABSTENTIONS: 1 - Mr. Schnittman abstained.

Absent:

Not Voting:

This resolution was thereupon duly adopted.

Moved: Ms. Gaughran

Seconded: Ms. Lawrence

Amendment

On August 15, 2002 the Zoning Board of Appeals, via resolution, adopted the Final Scope including the memorandum of the Planning and Environmental Department dated August 8, 2002 with the following amendments:

Page 3 of memorandum Items #2 to be deleted.

Page 4 of memorandum Item replace with: Zoning Board of Appeals wants reduced scale alternative as discussed (3 instead of 4, and/or 2 instead of 4).

Dated: August 16, 2002

TOWN OF HUNTINGTON, NY

Intra-Office Memorandum

Date: August 8, 2002

**To: CHRISTOPHER MODELEWSKI, CHAIRMAN
And MEMBERS OF THE ZONING BOARD OF APPEALS**

From: RICHARD MACHTAY - DIRECTOR OF PLANNING

Re: ZBA # 17318 - FIVE TOWNS COLLEGE

This memorandum is in response to the July 24, 2002 letter from Laurence S. Jurman to the Town of Huntington Zoning Board of Appeals.

Let me start off by saying that the requirements of 6 NYCRR Section 617.8(f) is prefaced by the statement "The final written scope SHOULD include" [emphasis added]. In other words, the specifics of each topic outlined in SEQRA Section 617.8(f) are recommendations and not requirements for inclusion to scoping checklist.

Scoping has been based upon items of concern identified in the EAF Part III adopted by the Town Zoning Board of Appeals. By reference, the June 6, 2002 Zoning Board of Appeals (ZBA) minutes for the subject application and earlier Planning documents were made part of the EAF Part III adopted by the ZBA. The Part III specifically identified the following items of concern:

- Impacts on character of the neighborhood,
- Issues relating to possible open space impacts,
- A substantial change in the intensity of use consequential to the addition of proposed on-site dormitory use,
- Full disclosure by the applicant of any and all future short and long-term plans that would potentially increase the use of the school, including the possibility of a future library addition, thus avoiding a segmented environmental review
- Changes in college course curriculum (to include business degrees) that could in turn pose a potential increase in the number of students that would attend the college,
- The potential for adverse neighborhood traffic concerns, and
- Concerns regarding the possibility of future site access directly to the Long Island Expressway (L.I.E.) North Service Road.

A scope is an outline for the Environmental Impact Statement. It appears as if Mr. Jurman feels that the scoping document is not specific enough for the subject application. However, please note that the scope for the DEIS includes an identification, explanation, and possible mitigation thereto of the items noted above. If the applicant's DEIS does not satisfy that identified in the scope, then a DEIS should

*Continue Next Page
Date Printed: August 8, 2002*

not be accepted as complete for public review by the ZBA until such time as the applicant revises the DEIS to reflect the intent of that requested by way of the scope.

Mr. Jurman also points out issues in his July 24, 2002 letter that he and House Beautiful at Dix Hills Home Owners' Association, Inc. feel should be included in the scoping document. Their concerns are as follows:

1. Detailing the public need for the project including student housing as well as all other potential uses for the residential buildings when not in use by the students. Mr. Jurman references an example in which the college rented out the buildings for non-student residential use over one weekend in May for a conference unrelated to the college's own programs.
2. Property ownership and tax status should be included with a detailed explanation of the relationship between Five Towns and Suffolk County IDA, the financing arrangement and tax deferrals or abatements received. Included in this area should be an analysis of the costs associated with the project on county and Town resources (police, fire, etc.) and other costs to the taxpayers.
3. Construction period air and noise impacts, the methods by which they are to be studied, and any mitigation measures proposed must be included.
4. In the Geology section, the applicant should identify changes to natural topography, the proper methodology to measure building height and what is permissible under the code.
5. In the Section identified as Transportation, the application should list in the scoping document the affected roadways, intersections, methods of ingress and egress to the facility and alternatives, the impact on the surrounding community, including the school bus depot, any impact on the LIRR, and buses and bus routes, if any, an any impact associated with the LIDC development in terms of traffic and transportation concerns. Also, with respect to the inclusions in the applicant's present document, the applicant should detail how it plans to "analyze" in the section "Description of Traffic levels and should address deliveries and servicing to the site.
6. In the Section "Land Use and Zoning" there should be a detailed analysis and description of the local community, current density, height restrictions, zoning, etc. The impact concerning potential changes in land uses and density should be studied using a comparative model in relation to schools, libraries, hospitals, retail establishments, community facilities, etc. There must also be a provision for impacts on surrounding property values identifying how the applicant proposes to study and mitigate any impact to same.
7. CULTURAL RESOURCES must be addressed - off campus vs. on campus
8. Parking impacts - school vs. non-school hours, events, visitors, etc.
9. There should be a section on future building scenarios.
10. There should be an analysis of what constitutes a "cellar" and what the applicant proposed that its cellar contain.
11. There should be reduced scale alternatives proposed.
12. The water table in the area should be included, analyzed, and if impacted, mitigation measures must be put into place.

Staff of the Planning and Environment Department has the following responses to the above items:

Item #1 - If the college is or plans to operate in violation of the Town Code, then the college will be subject to Town violations. This is no different than any other residential, commercial or

Continue Next Page
Date Printed: August 8, 2002

ZBA # 17318 – Five Towns College

industrial lot within the Town of Huntington having uses that do not comply with the Town Code.

Item #2 - The draft scope notes that the applicant must identify the public need for the project. If the ZBA feels that the above items are necessary in determining public need for the project, then the ZBA should revise the scope to include those items.

Item #3 - Issues pertaining to construction period, air and noise impacts should be included in the draft scope under the 'Construction and Operation' section via a detailed Operations Schedule to include possible mitigation measures, if necessary.

Item #4 - The Town Code is specific to building height relative to grade. Please refer to Town Code section 198-2 [Grade & Height of Building]. The heights of the buildings based upon grade were already determined by the Town of Huntington Planning and Environment Department and Engineering Services Department to be acceptable. However, if the buildings are re-evaluated at the request of the ZBA and determined by the appropriate reviewing agency (the Planning and Environment Department and the Engineering Services Department) to be not in compliance with the height, area, and bulk requirements of the Town Code, the applicant would then have to seek variances with justification as to why building height, area, and/or bulk should be varied via a separate application to the Town Zoning Board of Appeals (to include a separate hearing process), or the applicant will have to correct the buildings in order to comply with the requirements of the Town of Huntington.

Item #5 - Mr. Jurman and House Beautiful at Dix Hills Home Owners' Association, Inc. have valid concerns with regard to traffic and transportation issues and the scope should be revised to incorporate these traffic and transportation concerns for DEIS discussion, evaluation, possible ingress/egress alternatives, and mitigation thereto, if necessary.

Item #6 - Many of the items identified in #6 above have already been incorporated in the draft scope but in slightly different form. The public must be made aware during this environmental review process that the ZBA application is not for variances, but for a special use permit, and if the applicant complies with the provisions of the special use permit, it would be difficult for the Town Zoning Board of Appeals to deny the application in its entirety.

Item #7 - Mr. Jurman and House Beautiful at Dix Hills Home Owners' Association, Inc. have valid concerns with regard to Cultural Resources and the scope section IV F should be revised to read "include a discussion in the DEIS on the Archeological and Historical significance of the subject site, Cultural Resources, and the potential for on and off-campus impacts to said resources and mitigation thereto, if any."

Item #8 - Parking is based upon uses. If the applicant intends upon using the site other than for typical college activities, the applicant must make this matter clear in the DEIS. The draft scope appears to address this matter by way of section III A 4 [Objectives of the project's sponsor] and section V [Additional Items to be Included]. If the ZBA determines in the review of a DEIS that additional parking may be needed based upon the college campus' overall uses/activities, the ZBA can condition the action accordingly (i.e. restrict its uses, provide additional parking, etc.).

Item #9 - As noted in the response to item #8 above, the draft scope appears to address this matter by way of sections III A 4 and V.

Item #10 - There is a specific definition of 'cellar' per Town Code § 198-2. Cellars are not included in gross floor area for a residential building per Town Code §198-2 [Floor Area, Gross]. However, since the ZBA requested full disclosure from the applicant (see EAF Part III, top of

Continue Next Page
Date Printed: August 8, 2002

page 2), the applicant should identify all proposed uses in the cellars for proper evaluation by the ZBA.

Item #11 – Although a reduced scale alternative would appear to be a reasonable alternative for said action, the draft scope section II D does note evaluation of alternatives but does not specify the type of alternatives to be considered. If the Town ZBA feels that specific alternatives are necessary in determining public need for the project, then the Town ZBA should revise the scope to include appropriate alternatives.

Item #12 – Mr. Jurman and House Beautiful at Dix Hills Home Owners' Association, Inc. have valid concerns with regard to water table (groundwater) and its potential to be impacted. Although the draft scope identifies this item in section E [Groundwater – impacts from use and sanitary waste], the scope should be more specific noting that the DEIS shall include a discussion on groundwater relative to the applicant's overall (proposed and future) plans to develop the site, evaluation of these plans as it relates to sanitary wastewater generation and the potential for adverse groundwater concerns, and what mitigation measures, if any (i.e. construction of conventional subsurface sanitary disposal systems, a modified sanitary disposal system, a sewage treatment facility, or connection to an existing sewer pipeline in compliance with the Suffolk County Sanitary Code under the purview of the Suffolk County Department of Health Services) will be incorporated in the design of the overall site. The DEIS should also adequately address those items noted in the attached July 25, 2002 letter from the Suffolk County Department of Health Services (SCDHS) Office of Ecology.

It seems that Mr. Jurman is of the opinion that the scoping document should be 'all inclusive' and that specific alternatives and mitigating measures should be specified in the scope. However, because the applicant currently is not fully disclosing the overall project under review by the ZBA, it is difficult to discern precisely what alternatives and associated mitigating measures are necessary to scope without submission of a DEIS. Once the DEIS is submitted and reviewed, the ZBA, involved agencies, and interested parties will have an opportunity to participate and comment on the DEIS document for revisions to an FEIS.

If the Zoning Board of Appeals is in agreement with this memorandum, the ZBA may wish to include this memorandum as part of the final scope.

RM/cjm

END

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Date Printed: August 8, 2002

COUNTY OF SUFFOLK



ROBERT J. GAFFNEY
SUFFOLK COUNTY EXECUTIVE

DEPARTMENT OF HEALTH SERVICES

CLARE B. BRADLEY, M.D., M.P.H.
COMMISSIONER

July 25, 2002

Craig Turner, Planner
Planning Board
Town of Huntington
100 Main Street
Huntington, New York 11742-6991

RE: Fives Town College Dormitories
SCTM# 0400-261-3 001.002

DIRECTOR	44
DEPUTY DIR	
ASST. DIRECTOR	
AGENDA	
ADDED STARTER	
TRACE	CCRE

Dear Mr. Turner:

The Suffolk County Department of Health Services (SCDHS; "Department") has received your letter concerning the above-referenced project. The Department has no objection to the Huntington Planning Board assuming lead agency status.

Based on a review of the subject coordination, the Department offers the following comments. However, the Department wishes to reserve its right to provide more detailed information within the comment period(s) established for this action. These comments should not be construed as an implicit SCDHS approval or rejection of the project. All applications are reviewed thoroughly with respect to Suffolk County Sanitary Code concerns by appropriate departmental personnel when SCDHS applications are completed.

1. **SANITARY CODE**

A. Article VI Application Status:

Our agency has received an application for the above referenced project on April 23, 1999, HD Ref. S04-99-0015 as required by Article VI of the Suffolk County Sanitary Code. The application was deemed complete by the Division of Wastewater.

The applicants must comply with the requirements of the Suffolk County Sanitary Code and relevant construction standards for water supply and sewage disposal. Design and flow specifications, subsurface soil conditions, and complete site plan details are essential to the review of this project. These considerations are reviewed completely at the time of SCDHS application.

AUG 02 2002

B. SCDHS Jurisdiction

The SCDHS maintains jurisdiction over the final location of sewage disposal and water supply systems. The applicant, therefore, should not undertake the construction of either system without Health Department approval. Design and flow specifications, subsurface soil conditions, and complete site plan details are essential to the review of this project. These considerations are reviewed completely at the time of SCDHS application.

2. Natural Resources:

A. The SCDHS fully supports all efforts to maximize protection of natural resources, which may be impacted upon by construction and development activities. It is the position of the department that the SEQRA review process provides the greatest opportunity for comprehensive consideration of these resources, and those all-practicable planning measures should be employed to help ensure their protection.

In general, the department encourages the following land use measures be considered (where appropriate) to actions being reviewed pursuant to SEQRA:

- Maximum practicable confinement of development to areas with slopes of less than 10%.
- Maximum use of native species for landscaping purposes.
- Minimal use of fertilizer-dependent turf and landscaping.
- Employment of stormwater runoff control measures necessary to maintain runoff on-site.

Thank you for the opportunity to review this application. If you have any questions, please feel free to contact the Office of Ecology at 852-2741.

Sincerely,



Kimberly Shaw
Principal Environmental Analyst

KS/amf

pc: Walter Dawydiak, P.E.
Stephen Costa, P.E.

LAURENCE S. JURMAN

ATTORNEY AND COUNSELLOR AT LAW

425 BROAD HOLLOW ROAD • SUITE 203

MELVILLE, NEW YORK 11747

(631) 777-1355

FAX (631) 777-1357

July 24, 2002

Town of Huntington
Zoning Board of Appeals
100 Main Street
Huntington, New York 11743

RE: PUBLIC COMMENT
DRAFT DEIS SCOPE
DORMITORY PROJECT - FIVE TOWNS COLLEGE

To the Honorable Members and Chairman Christopher Modelewski of the Zoning Board of Appeals:

As you are aware, I am counsel to House Beautiful at Dix Hills Home Owners' Association, Inc., one of the opponents of the above referenced project. In that capacity, I forward this letter of commentary on the Document submitted by Five Towns College and identified as "DEIS SCOPING FIVE TOWNS COLLEGE DORMITORIES."

At the outset, on behalf of my client and all of its members who reside in close proximity to the proposed project site I would like to express our appreciation for having been given the opportunity, at last, to have our views and comments heard. All that these residents have been asking for from the day this project was first proposed by its commercial operator is a thorough, "hard look" at all of the adverse effects that would result from the new and greatly intensified uses that the project contemplates. It is most gratifying that the project will finally be subjected to this necessary level of scrutiny.

Getting to the specifics of the Applicant's proposed draft scoping document, it is respectfully submitted that on the whole, it fails to satisfy the requirements of 6 NYCRR Section 617.8(f). In this regard, the regulations pertaining to scoping specifically require the document to address:

- (f)(3) the extent and quality of information needed for the preparer to adequately address each impact, including an identification of relevant existing information, and required new information, including the required methodologies for obtaining new information;

July 15, 2002

Town of Huntington

Page 2

- (f)(4) an initial identification of mitigation measures;
- (f)(5) The reasonable alternatives to be considered;
- (f)(6) an identification of the information / data that should be included in an appendix rather than the body of the draft EIS...

6 NYCRR Section 617.8

The document submitted by FIVE TOWNS COLLEGE is nothing more than a simple outline of topics to be included in the DEIS. Same does not, in any fashion, provide the pertinent detail required by the provisions of 617.8(f)(3)(4)(5)(6) as to the "extent and quality of information needed" nor does same, "include an identification of relevant existing information, and required new information" and finally, the document does not speak to any "methodologies" for obtaining new information (i.e. engineering or traffic studies, etc.).

Strict compliance with the requirements of section 617(f) is indispensable to ensuring the integrity, comprehensiveness, and completeness of the EIS Process. Unless all of the foregoing required information is set out in relevant detail in the scoping document, there can be no way of determining whether identified potential impacts will be adequately and properly measured and assessed and whether any proposed mitigation measures will have the claimed effect. Nor can there be any fair or objective way of testing the accuracy of purported results. Rather than jeopardize the integrity of the EIS Process, as the proposed scoping document does, the applicant should be required to comply with the requirements of section 617(f) and detail all items to be included and studied in the DEIS. Otherwise, the essential purpose of the scoping process will be defeated.

In addition to the overall fundamental problems with the applicant's submission, there are a series of substantive issues that were not included in the draft but which now must be addressed. These include:

- * detailing the public need for the project including student housing as well as all other potential uses for the residential buildings when not in use by students. For example, the College recently rented out the buildings for non-student residential use over one weekend in May for a conference unrelated to the college's own programs. These type of lodging scenarios must be identified and their impacts analyzed.

July 15, 2002

Town of Huntington

Page 3

- * property ownership and tax status should be included with a detailed explanation of the relationship between Five Towns and Suffolk County IDA, the financing arrangement and tax deferrals or abatements received. Included in this area should be an analysis of the costs associated with the project on county and Town resources (police, fire, etc.) and other costs to the taxpayers.
- * construction period air and noise impacts, the methods by which they are to be studied, and any mitigation measures proposed must be included.
- * In the Geology section, the applicant should identify changes to natural topography, the proper methodology to measure building height and what is permissible under the code.
- * In the Section identified as Transportation, the application should list in the scoping document the affected roadways, intersections, methods of ingress and egress to the facility and alternatives, the impact on the surrounding community, including the school bus depot, any impact on the LIRR, and buses and bus routes, if any, and any impact associated with the LIDC development in terms of traffic and transportation concerns. Also, with respect to the inclusions in the applicant's present document, the applicant should detail how it plans to "analyze" in the section "Description of Traffic levels and should address deliveries and servicing to the site.
- * In the Section "Land Use and Zoning" there should be a detailed analysis and description of the local community, current density, height restrictions, zoning, etc. The impact concerning potential changes in land uses and density should be studied using a comparative model in relation to schools, libraries, hospitals, retail establishments, community facilities, etc. There must also be a provision for impacts on surrounding property values identifying how the applicant proposes to study and mitigate any impact to same.
- * CULTURAL RESOURCES must be addressed
 - off campus vs. on campus.
- * Parking impacts - school vs. non-school hours, events, visitors, etc.
- * There should be a section on future building scenarios.

LAURENCE S. JURMAN, ESQ.

July 15, 2002

Town of Huntington

Page 4

- * There should be an analysis of what constitutes a "cellar" and what the applicant proposed that its cellar contain.
- * There should be reduced scale alternatives proposed.
- * The water table in the area should be included, analyzed, and if impacted, mitigation measures must be put into place.

Given all of the foregoing, it is clear that the proposed scoping document provided by the applicant does not satisfy the required regulations concerning methods of analysis, among other things. It is respectfully submitted that the methods by which the applicant proposes to study each item identified in its "outline" should come from the applicant. This is not the type of information that should come from either the public or the Planning Department. As such, the Zoning Board should require the applicant to go back and provide the statutorily required detail to the proposed scoping document. Without such detail, the scoping document is for all practical purposes of little or no objective value and it will certainly lead to controversy later in this process. House Beautiful, for one, believes that the community and the salutary purposes of the EIS process—and the very integrity of that process are best served by requiring a proper scoping document in the first instance.

If you have any questions, please feel free to contact me at any time.

Very truly yours,

Laurence S. Jurman

LSJ/mb

cc: Arthur Goldstein, Esq.

ZBA # 17318 - Five Towns College
ENVIRONMENTAL ASSESSMENT FORM
PARTS III

SEQRA CLASSIFICATION

The subject property on which the action is proposed is substantially contiguous to a Town designated open space parcel listed on the Town's Open Space Index as OSI # SE-22. As the use for said action could result in the physical disturbance of more than 2½ acres, pursuant to the criteria under 6 NYCRR, specifically §617.4(b)(5)(ii), §617.4(b)(6)(i) and §617.4(b)(10), said action is classified as a Type I Action pursuant to SEQRA.

SUBJECT ACTION

The review by the Town Zoning Board of Appeals is for a conditionally permitted use as per Town Code § 198-68A(12) in which the applicant has requested no variances. The action proposes dormitory use within four (4) structures previously reviewed and approved by the Planning Board. See Project Description below.

PROJECT DESCRIPTION

The 33.6 acre subject property is within an R-40 one acre Residence zone district and is located on the southeast corner of Half Hollow Road and Burrs Lane, and the northeast corner of Burrs Lane and the Long Island Expressway North Service Road in Dix Hills, indicated as SCTM # 0400-261-03-001.2. The 33.6 acre subject property contains a 120,000 square foot school building and obtained Planning Board Amended Site Plan approval to construct four (4) 16,034 square foot buildings on roughly 3.12 acres of existing forested area within the northwest corner of the subject property. The four (4) buildings are of a two (2) story/three (3) floor design on varied topography. The Planning Board's amended site plan approval identified that the subject property's existing southern parking lot will also be expanded further to the south to accommodate an additional 166 parking stalls. Regardless of use, the site plan reviewed and approved by the Planning Board required no variances.

POTENTIAL ENVIRONMENTAL IMPACTS

Please note that the June 6, 2002 Zoning Board of Appeals (ZBA) minutes for the subject application (which references earlier Planning documents) has been made a part of this EAF Part III by reference. The main issues of concern outlined in the June 6, 2002 ZBA minutes are as follows:

- Impacts on character of the neighborhood,
- Issues relating to possible open space impacts,
- A substantial change in the intensity of use consequential to the addition of proposed on-site dormitory use,

Continue Next Page
Date Printed: August 6, 2002

- Full disclosure by the applicant of any and all future short and long-term plans that would potentially increase the use of the school , including the possibility of a future library addition, thus avoiding a segmented environmental review
- Changes in college course curriculum (to include business degrees) that could in turn pose a potential increase in the number of students that would attend the college,
- The potential for adverse neighborhood traffic concerns, and
- Concerns regarding the possibility of future site access directly to the Long Island Expressway (L.I.E.) North Service Road.

The issues of concern identified above and in the June 6, 2002 Zoning Board of Appeals (ZBA) minutes identifies the potential for significant impacts that has not yet been adequately addressed or mitigated via the information submitted by the applicant. The ZBA minutes indicates that if there are indeed other plans the college has with respect to development on the 33.6-acre subject property, the ZBA must be sufficiently aware of these long-term plans and therefore, can not conduct a segmented review.

To yield a full appraisal of all potential impacts related to the subject application, any mitigation thereto, and to make the community apprised of all the issues pertaining to the subject property, the applicant must prepare an environmental impact statement to address all items of concern as outlined in the June 6, 2002 ZBA minutes and in this EAF Part III.

END

U:\word\zba\five towns college\17318 - 5 towns revised by jfm1.doc
Date Printed: August 6, 2002

DRAFT
DEIS SCOPING
FIVE TOWNS COLLEGE
DORMITORIES

RECEIVED
 AUG 15 2002
 TOWN OF NORTHAMPTON
 ZONING BOARD OF APPEALS

I. Cover Sheet

- A. A Draft Environmental Impact Statement
- B. Name of the project
- C. Location of the project
- D. Name and address of the lead agency (Zoning Board of Appeals of the Town of Hammington), contact name and phone number
- E. Name and address of the preparers of any portion of the statement and a contact name and telephone number
- F. Date of acceptance of the Draft EIS (provide blank line)
- G. Deadline date by which comments are due should be indicated (provide a blank line)

II. Table of Contents and Summary

A table of contents and a brief summary are required. The summary should include:

- A. Brief description of the action
- B. Significant, beneficial and adverse impacts
- C. Mitigation measures proposed
- D. Alternatives considered
- E. Matters to be decided

III. Description of the Proposed Actions

A. Project, Purpose, Need and Benefits

- 1) Background and history, including the legal proceedings
- 2) Public need for the project
- 3) Objectives of the project's sponsor
- 4) Benefits of the proposed action
 - a) social
 - b) economic
- 5) Community Opposition

B. Location

- 1) Describe geographical boundaries of the project
- 2) Describe access to the site

Continue Next Page

3) Description of the existing zoning of the site

C. Design and Layout

- 1) Total site area
- 2) Proposed impervious surface area
- 3) Amount of land to be cleared
- 4) Open space
- 5) Area to remain undisturbed
- 6) Structures
 - a) layout of building
 - b) site plans
 - c) profile view
 - d) description of drainage plans and how they mitigate impacts from storm-water run-off
 - e) *The "cellar" of the structures will be described and related to code.*
- 7) Visual Impacts, if any must be discussed and mitigation proposed
- 8) As-built compared to approved plan (Planning Board) including building profiles
- 9) *Parking - the proposed parking and parking adequacy will be discussed.*

D. Construction and Operation

- 1) Construction
 - a) Total construction period-past and future
 - b) Schedule of construction
 - c) Future potential development, on adjoining properties, if any
 - d) Staging area for material handling
 - e) *Air and noise impacts and mitigation*
- 2) Operation
 - a) *Property ownership and tax status (i.e. tax deferrals/abatements, if applicable)*
 - b) *Future Plans for the facility will be considered*
 - c) *Other potential uses of the residential buildings when not in use by students. Delivery and service trips to the site will be discussed.*

E. Approvals

- 1) Set forth all approvals required

Continue Next Page

2

IV. Environmental Setting-Impacts and Mitigation

The DEIS shall include a description of the existing conditions, potential impacts due to development and proposed mitigation measures for each of the following categories:

A. Geology

- 1) Topography
 - a) Description of topography of site
 - b) Description of topography of surrounding area
 - c) *Identify changes to natural topography.*
- 2) Erosion control
 - a) Generally describe the erosion control procedures including any fences and sedimentation control

B. Transportation

- 1) Transportation Services
 - a) Description of the size, capacity and condition of services
 - i. Roads
 - ii. Parking facilities
 - iii. Traffic control
 - iv. Access/egress from site
 - b) Description of traffic levels
 - i. Analyze the traffic with entrance and exit only from Burt's Lane
 - ii. Analyze the traffic with exit only on Burt's Lane and entrance on Half Hollow Hills
 - iii. Discuss issues concerning necessity, feasibility, and impact of relating entrance to Service Road of Long Island Expressway
 - iv. Analyze present traffic
 - v. Analyze alternatives to mitigate traffic concerns
- 2) *Traffic Impacts - Accepted engineering principals and traffic impact analysis methods recognized by transportation agencies, the Institute of Transportation Engineers and the Highway Capacity Manual will be used. Existing developments in the area (including LIDC) will be inventoried and included in existing conditions on roadways proximate to and potentially affected by the project, and an accepted growth factor will be applied. The adequacy of parking shall be determined for the proposed use. Considerations will be given to public transportation (LIRR, bus routes) and any potential impact on such transit.*

Continue Next Page

3

- 2) Public transportation-discuss:
 - a) existing
 - b) alternatives
 - c) possible implementation by the applicant

C. Land use and Zoning

- 1) Describe the existing land use and zoning of project, site and surrounding areas
- 2) Set forth litigation history
- 3) Discuss the compatibility of the project with the surrounding area
- 4) Describe compliance with the height and bulk gross floor area and set backs and lot areas
- 5) Discuss impacts of on-campus housing activities ancillary to dormitory use
- 6) Discuss standards and conditions of the Special Use Permit and the principals that govern such a use
- 7) Discuss building height restrictions under code and project conformance.
- 8) *The existing neighborhood will be documented in terms of density, height and zoning. The land use and zoning impact of the project will be discussed, relating to changes in land use density. The potential impact on property values will be addressed by a real estate expert.*

D. Open Space

- 1) Impact, if any, upon adjacent area designed as open space area

E. Ground water-impacts from use and sanitary waste

- 1) Discuss recharge from septic and parking areas
- 2) Discuss precluding Transfer of Development Rights (TDR) and limits on further development of subject property
- 3) *Discuss potential impact on water resources including depth to water, groundwater flow, water quality, and stormwater will be documented.*

F. Cultural Resources

- 1) *The Cultural Resources Assessment, prepared by a qualified archaeologist, will be summarized and Appended.*
- 2) *Air and noise impact analysis based on potential increase above ambient conditions as documented by existing literature.*

G. Community Resources

- 1) *Fiscal Impacts—tax revenue analysis and potential impact on community service providers (i.e. police, fire, etc.)*

Continue Next Page

4

2) *Discuss safety and security issues*V. *Additional Items to be included*A. *Expansion*

- 1) *Expansion plans*
- 2) *Discuss the changes, past and present, and possible future, in course curriculum as it affects the population of the dormitories*
- 3) *Discuss plans for curriculum change as related to items other than dormitories*
- 4) *Specify reference to the possibility of the "future library"*

B. *Analyze change in non-dormitory population as it effects board of health requirements for dormitories*VI. *Alternatives*A. *Alternative 1 - No Action as required by SEQRA*B. *Alternative 2 - additional vehicle access to the North Service Road of the LIE**Extent and Quality of Information*

Impact analysis will be based on principals of environmental science and will be referenced where appropriate. Changes in the existing environment will be quantified where possible, with qualitative discussion provided in the absence of quantifiable impacts. The SEQRA process and the DEIS prepared in conformance with this scope are intended to provide comprehensive and important information in the decision-making process for use by involved agencies in preparing their own findings and issuing decisions on their respective permits. The document will be concise but thorough, well-documented, accurate, and consistent. Studies for traffic, cultural resources, and other aspects of the project, prepared by qualified specialists, shall be appended and referenced. Technical information may be summarized in the body of the document and attached in a separate appendix. All pertinent correspondence utilized in the document shall be contained in appendices.

Initial Identification of Mitigation Measures

1. *The area and volume of disturbed soils should be minimized, possibly by use of retaining walls, where appropriate.*
2. *Use of water-saving plumbing fixtures will help minimize water consumption.*
3. *The acreage of natural vegetation removed may be minimized by incorporating this vegetation into any landscaping plan, and planting of native or native-compatible species.*
4. *Necessary and appropriate roadway and signalization/signage improvements, as determined by the Traffic Impact Study and approved/required by the Town and/or NYSDOT, will be implemented in order to mitigate potential impacts to transportation resources.*
5. *Extension or alterations in public transit routes may help to mitigate traffic impacts.*
6. *Conformance to the applicable standards and recommendations of the various land use, zoning and planning studies are anticipated to mitigate impacts to these resources.*

Continue Next Page

7. The anticipated increase in property tax revenues due to the proposed action is anticipated to alleviate some of the increased fiscal burdens applied to the various public services.
8. Use of security and fire/smoke alarm systems, fire-resistant building materials and conformance to the NYS Fire Code will mitigate potential impacts to fire protection and security issues.
9. Installation of on-site septic systems for treatment of the sanitary wastewaters generated by the proposed action will mitigate potential impacts to groundwater quality.
10. Use of energy-conserving building materials, mechanical systems and building designs will mitigate the potential for impact to energy resources required for the project, to be supplied by LIPA/KeySpan.
11. Use of a well-conceived and judicious landscaping plan and architectural treatment will mitigate impacts to the visual character of the site and vicinity.

Reasonable Alternatives

Information to be Included in Appendices

All pertinent information and correspondence include, presented or discussed in the document, should be included in appendices subdivided for ease of reference. Such appendices may include, but not be limited to, the Traffic Impact Study, groundwater data and analysis results, the Cultural Resources Assessment, engineering studies, etc.

END

Date Printed: August 13, 2002

6

APPENDIX B

PHOTOGRAPHS OF SITE AND VICINITY



PHOTOGRAPHIC KEY



Source: GeoMaps Aerial Photographs 1999
Scale: 1" = 400'





1. View east along Half Hollow Road



2. View west along Half Hollow Road



3. View south from Half Hollow Road to new construction



4. View east from Burr's Lane to new construction



5. View east from Burr's Lane to new construction



6. View southeast on Burr's Lane



7. View east from construction entrance to new construction



8. View east from northern Burr's Lane entrance



9. View northeast from northern Burr's Lane entrance



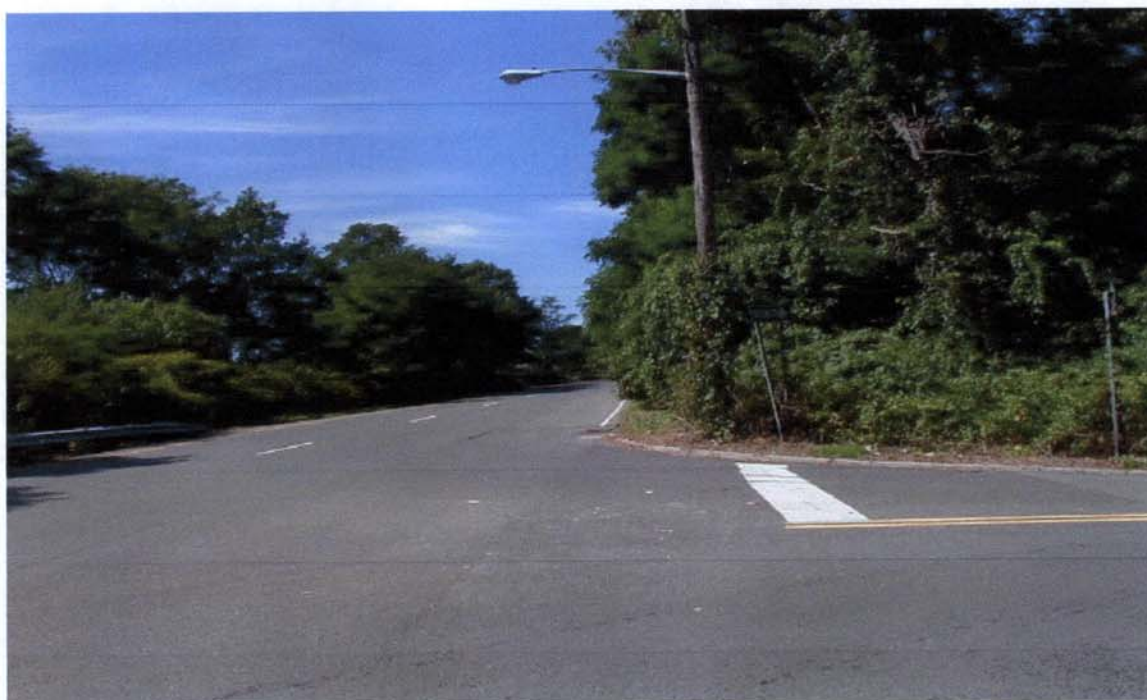
10. View northeast from southern Burr's Lane entrance



11. View southeast from southern Burr's Lane entrance



12. View southeast from southern Burr's Lane entrance to parking area



13. View west along North Service Road at Burr's Lane intersection



14. View east along North Service Road



15. View southwest to northern Burr's Lane entrance



16. View northwest showing newly constructed building # 2 and building # 4 under construction in background



17. View north of building # 4 under construction



18. View northwest of building # 3 under construction



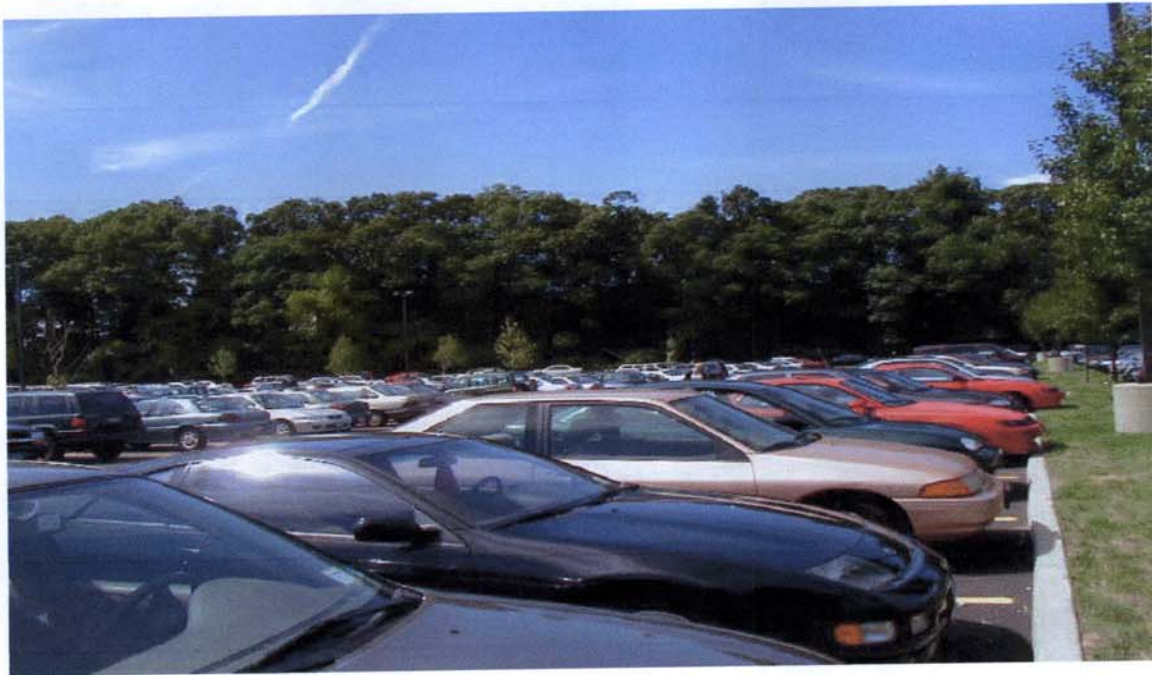
19. View northwest of existing classroom building



20. View northeast of existing classroom building



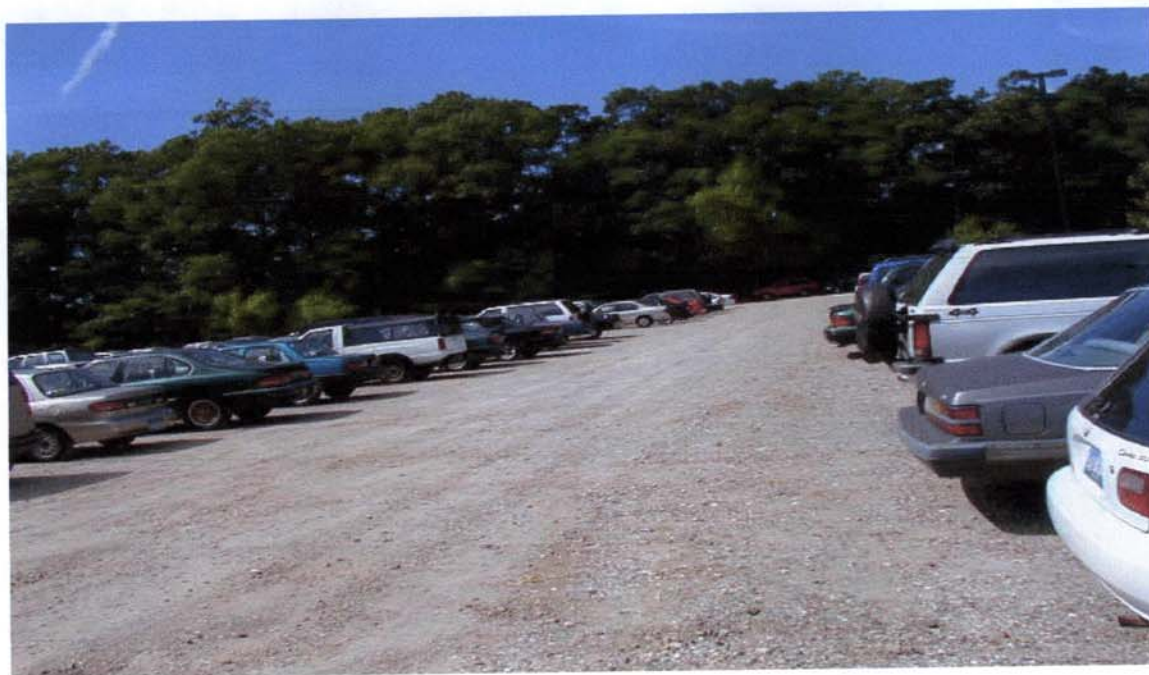
21. View south to parking area



22. View west from paved parking area



23. View east from paved parking area



24. View west from gravel parking area



29. View southeast from main entrance toward building #4



30. View southwest from main entrance toward building #3



27. View east of athletic field



28. View south of athletic field



25. View east from gravel parking area



26. View west of athletic field



31. View south from main entrance showing roadway, hay bales and retaining wall

APPENDIX C

SONIR COMPUTER MODEL



Appendix C-1
Model User's Guide



SONIR MODEL USER GUIDE

Simulation of Nitrogen in Recharge (SONIR) Nelson, Pope & Voorhis, LLC Microcomputer Model

INTRODUCTION

SONIR is a microcomputer model developed by Charles Voorhis for use by Nelson, Pope & Voorhis, LLC in order to simulate the hydrologic water budget of a site and determine total nitrogen and nitrogen present in recharge in connection with land use projects. The model was developed on the Microsoft Excel Spreadsheet (trademark of Microsoft Products) for IBM (trademark of International Business Machines, Inc.) or compatible Personal Computers capable of running Excel.

Nitrogen has been identified as a source of contamination primarily from sanitary discharge and lawn fertilization. Nitrogen is of concern as a drinking water contaminant, and there is an established health limit of 10 milligrams per liter (mg/l) in drinking water. Nitrogen is also of concern in surface water, as it is a nutrient that when present in high concentrations can cause algal blooms, resulting in biological oxygen demand as algae is biologically decomposed. Depleted oxygen in surface waters causes conditions unfavorable to fish species and can result in extremely undesirable aesthetic impacts, primarily related to odors. Accordingly, it is necessary to understand the concentration of nitrogen recharge as related to a proposed site development.

Utilizing a mass-balance concept, and applying known hydrologic facts and basic assumptions, it is possible to predict the concentration of nitrogen in recharge to the shallow aquifer underlying a given site. This prediction can in turn be used to determine impacts and significance of impacts in consideration of hydrogeologic factors. Similar techniques have been used to simulate nitrogen in recharge as published by the New York State Water Resources Institute, Center for Environmental Research at Cornell University, Ithaca, New York (**Hughes and Pacenka, 1985**). SONIR is intended to provide a more versatile model based upon the BURBS Mass-Balance concept. SONIR allows for use of the model to predict nitrogen impact from many sources including sewage treatment plants, and further allows for determination of a wider variety site recharge components under the hydrologic water budget section. SONIR has more versatility in the input of information, and also provides a printout of each step performed by the model, in order for regulatory agencies and review entities to understand how values are derived.

This text describes in detail the definition of terms, supported by referenced information regarding input of data for the simulation. The concept of determining the concentration of nitrogen in recharge involves a predication of the weight of nitrogen introduced to the site, as compared to the quantity of recharge resulting from precipitation and wastewater water



discharge. Losses due to evapotranspiration and runoff must be accounted for in the simulation. The values and relationship associated with these parameters determines the quantity of recharge which enters the site. The prediction is generally annualized due to the availability of average annual hydrologic data; however, data input can be determined on a seasonal basis if information is available.

The model includes four (4) data sheets identified as follows:

- * Data Input Field - Sheet 1
- * Site Recharge Computations - Sheet 2
- * Site Nitrogen Budget - Sheet 3
- * Nitrogen in Recharge Output Field - Sheet 4

All information required by the model is input in Sheet 1 - Data Input Field. Sheets 2 and 3 utilize data from Sheet 1 to compute the Site Recharge and the Site Nitrogen Budget. Sheet 4 utilizes the total values from Sheets 2 and 3 to perform the final Nitrogen in Recharge computations. Sheet 4 also includes tabulations of all conversion factors utilized in the model.

It should be noted that the simulation is only as accurate as the data which is input into the model. An understanding of hydrologic principles is necessary to determine and justify much of the data inputs used for water budget parameters. Further principles of environmental science and engineering are applied in determining nitrogen sources, application and discharge rates, degradation and losses, and final recharge. Users must apply caution in arriving at assumptions in order to ensure justifiable results.

SITE RECHARGE COMPUTATIONS

Overview

SONIR utilizes the basic hydrologic equation for determining the quantity of recharge anticipated by subtracting recharge losses from total precipitation. The quantity of recharge resulting from a given site is determined using the hydrologic budget equation (Koszalka, 1984; p. 19):

$$R = P - (E + Q)$$

where:

R = recharge

P = precipitation

E = evapotranspiration

Q = overland runoff

The quantity of recharge must be determined for each type of land use existing on a site, in order to determine the resultant site recharge. Surfaces commonly considered include: impervious



surfaces; turfed areas; and natural areas; however, SONIR allows for a variety of land cover types to be considered in the model. In addition, site recharge occurs as a result of irrigation and wastewater discharge. In cases where water is imported to a site via a public water system, this quantity of recharge must be considered as additional water recharged on site. SONIR allows for all of these recharge components to be included in the simulation. Many sites have fresh surface water in the form of lakes and ponds. Precipitation falls upon these surfaces; however, such features generally act as a mechanism for water loss as a result of evaporation. SONIR includes a Water Area Loss component in determining the site Hydrologic Water Budget and in computing recharge nitrogen.

Data Input - Sheet 1

The following provides a discussion of data sources and assumptions associated with the hydrologic water budget, corresponding to the Data Input Field in Sheet 1 of SONIR:

1. *Area of Site* - The total area of the site (in acres) which is capable of recharging precipitation is entered in this data cell. For sites which include tidal wetlands, the area which is inundated by tidal waters should be excluded, as recharge from these areas should not be considered in the context of nitrogen simulation. For sites which include surface water, the area can be included, provided evaporative water loss from surface water is considered by entering the acreage of surface water in Data Cell 15 noted below.
2. *Precipitation Rate* - Precipitation in the form of rainfall and snowmelt is determined using long term recorded values from local weather stations. Cornell University maintains the Northeast Regional Climate Center, from which long term precipitation data for Long Island weather stations is available. Monthly precipitation averages are published for the period 1951-1980 in Thornthwaite and Mather's Climatic Water Budget Method (**Snowden and Pacenka, 1985**). A tabulation of monthly and annual precipitation averages excerpted from this reference is included in the table cited for Evapotranspiration values. Data entry is in inches.
3. *Acreage of Lawn* - The total area of lawn (in acres) is entered in this Data Cell. This area includes all lawn area whether it is irrigated, fertilized or unmaintained. If there is no lawn area, a value of zero (0) is entered.
4. *Fraction of Land in Lawn* - No entry need be made in this Data Cell. SONIR will compute the Fraction of Land in Lawn by dividing the lawn area by total area.
5. *Evapotranspiration from Lawn* - Evapotranspiration is the natural water loss attributed to evaporation and plant utilization. Rainwater which is evaporated and transpired by plants is returned to the atmosphere as vapor. There are various methods for determining evapotranspiration, including direct measure and calculation. A commonly recognized



method is the Thornthwaite and Mather Climatic Water Budget Method. Evapotranspiration rates for various locations on Long Island have been determined by the U.S. Geological Survey as documented in Ground-Water-Recharge Rates in Nassau and Suffolk Counties, New York (Peterson, 1987; p. 10). The following general rates as a percent of total precipitation are excerpted from that reference:

<u>Location</u>	<u>Soil Type</u>	<u>Vegetation</u>	<u>ET(in)</u>	<u>ET(%)</u>
Bridgehampton	sandy loam	shallow root	21.2	46.6
	silt loam	shallow root	21.4	47.2
LaGuardia	sand	shallow root	24.2	52.9
	clay loam	shallow root	25.4	55.5
	sandy loam	moderate root	26.2	57.2
JFK Airport	sand	shallow root	22.5	53.8
	clay loam	shallow root	23.9	57.3
	sandy loam	moderate root	25.0	60.0
Mineola	sand	shallow root	22.4	47.8
	sand-silt	shallow root	23.8	51.0
	sandy loam	moderate root	25.1	53.7
	sandy loam	orchards	25.5	54.5
Patchogue	fine sand	mature forest	25.5	53.5
Riverhead	sandy loam	shallow root	22.4	49.3
		orchards	24.8	54.7
Setauket	sandy loam	mature forest	26.8	57.9
Upton	silt loam	deep root	23.9	48.4
	sandy loam	moderate root	23.0	46.5

6. *Runoff from Lawn* - Runoff is the quantity of water which travels overland during a precipitation event. Soil infiltration capacity is the critical factor in determining runoff; however, factors such as slope and vegetation also determine runoff characteristics to a lesser extent on Long Island because of soil conditions. Less urbanized areas of Long Island with characteristically dry soils with groundcover will have a low runoff percentage as a function of total precipitation, as compared to the more urbanized portions of western Long Island. Peterson (1984; p. 14) estimates runoff as a percent of total precipitation for Nassau County (2.1 percent); Suffolk County (0.7 percent), and Long Island in general (1.0 percent). If an average precipitation rate of 45 inches per year is assumed, runoff will vary from 0.31 to 0.94 inches. Lawn areas would be expected to be in the lower end of the range. Judgements of higher and lower runoff can be made on a site specific basis depending upon slope and groundcover types.

7. *Acreage of Impervious* - The total area of impervious surface (in acres) is entered in this Data Cell. This area includes paved driveways, parking areas, roofs, roads, etc. If there are no impervious surfaces, a value of zero (0) is entered.



8. *Fraction of Land Impervious* - No entry need be made in this Data Cell. SONIR will compute the Fraction of Land in Impervious by dividing the impervious area by total area.
9. *Evaporation from Impervious* - Impervious surfaces will allow water to evaporate, particularly during summer months. There is no vegetation, therefore there is no transpiration by plants. Evaporation from Impervious is estimated to be approximately 10 percent of total precipitation (**Hughes and Porter, 1983; p. 10**). This value accounts for evaporation from parking lots and other surfaces during summer months, averaged over the entire year. This indicates that recharge/runoff would comprise the remaining 90 percent of precipitation. This assumption coincides with most drainage computations required by Code Subdivision Regulations for determined leaching pool capacity.
10. *Runoff from Impervious* - The approximation of Evaporation from Impervious would indicate that recharge/runoff would comprise the remaining 90 percent of precipitation as there are no other losses from impervious surfaces. In consideration of paved areas, runoff is not transported off the site or to surface water as a loss. Runoff is diverted to leaching pools and allowed to re-enter the hydrologic system beneath a given site. Therefore, in terms of site recharge computations, the value for Runoff from Impervious is zero (0).
11. *Acreage of Unvegetated* - The total acreage of unvegetated area is entered in this Data Cell. This area includes sand, barren soils, and porous drives and trails. If there is no unvegetated area, a value of zero (0) is used.
12. *Fraction of Land Unvegetated* - No entry need be made in this Data Cell. SONIR will compute the Fraction of Land Unvegetated by dividing the unvegetated area by total area.
13. *Evapotranspiration from Unvegetated* - Evapotranspiration from Unvegetated areas is determined in the same manner as described for Data Cell 5 above.
14. *Runoff from Unvegetated* - The runoff coefficients noted in the discussion for Data Cell 6 above, are applied to unvegetated areas on a site specific basis. Runoff in the middle to higher end of the range (0.7 to 2.1 percent of precipitation) are expected due to lack of groundcover vegetation.
15. *Acreage of Water* - SONIR considers evaporation from surface water in the computation of site recharge. Surface water, particularly groundwater fed lakes and ponds are a source of water loss in the water budget. The quantity of fresh surface water (in acres) is entered in this Data Cell.
16. *Fraction of Land in Water* - No entry need be made in this Data Cell. SONIR will compute the Fraction of Water on the site by dividing the water area by total area.

17. *Evaporation from Water* - Surface water features will cause evaporation of water in excess of normal evapotranspiration as documented by **Warren et al, 1968**, Hydrology of Brookhaven National Laboratory and Vicinity Suffolk County, New York. It is estimated that the upper limit of evaporation from a large free-water surface is approximately 30.00 inches per year (**Warren et al, 1968; p. 26**). This value is entered in Data Cell 17 as the most accurate approximation.
18. *Makeup Water* - SONIR allows for consideration of the impact of man-made lakes on site recharge. Lakes are generally lined with an impermeable material. Evaporation occurs from the surface of the lake at a rate of 30.00 inches per year. In order to maintain a constant water level, an on-site well is generally installed to provide make-up water to the lake or pond. The quantity of make-up water is equivalent to the quantity of evaporation, given the fact that the function of the well is to replace water which is evaporated. Therefore, for cases where make-up water is used to maintain a constant water level, a value of 30.00 inches per year is entered in Data Cell 18.
19. *Acreage of Natural* - The total quantity of natural area (in acres) is entered in this Data Cell. This area includes naturally vegetated areas such as woodland, meadow, etc. If there is no natural area, a value of zero (0) is entered.
20. *Fraction of Land Natural* - No entry need be made in this Data Cell. SONIR will compute the Fraction of Land Natural by dividing the natural area by total area.
21. *Evapotranspiration from Natural* - Evapotranspiration from Natural areas is determined in the same manner as described for Data Cell 5 above.
22. *Runoff from Natural* - The runoff coefficients noted in the discussion for Data Cell 6 above, are applied to natural areas on a site specific basis. Generally lower values in the range of 0.7 percent of precipitation are expected due to groundcover and canopy vegetation.
23. *Acreage of Other Area* - This is a general category which can be used to include additional groundcover types in the simulation. Acreage of Other Area is entered (in acres). This Data Cell can be used to include site recharge considerations from a portion of the site which has different hydrologic properties, such as a moist hardwood forest or vegetated freshwater wetland, where evapotranspiration would be high and runoff would be extremely low.
24. *Fraction of Land in Other Area* - No entry need be made in this Data Cell. SONIR will compute the Fraction of Land in Other Area by dividing the land in other area by total area.

25. *Evapotranspiration from Other Area* - Evapotranspiration from Other areas is determined in the same manner as described for Data Cell 5 above. Value can be varied depending upon the hydrologic properties of the groundcover type.
26. *Runoff from Other Area* - The runoff coefficients noted in the discussion for Data Cell 6 above, are applied to Other Areas on a site specific basis. Value can be varied depending upon the hydrologic properties of the groundcover type.
27. *Acreage of Land Irrigated* - Imported water for irrigation purposes is an additional site recharge component not considered in any of the Data Cells above. The quantity of land irrigated on a given site is entered in this Data Cell (in acres).
28. *Fraction of Land Irrigated* - No entry need be made in this Data Cell. SONIR will compute the Fraction of Land Irrigated by dividing the land irrigated area by total area.
29. *Irrigation Rate* - The rate of irrigation must be entered in this Data Cell (in inches). Hughes and Porter (1983; p. 10) have indicated that lawn irrigation is estimated to be about 5.5 inches per year. This value is entered in Data Cell 29 as the most accurate approximation.
30. *Number of Dwellings* - The number of dwellings is entered in this Data Cell in order to allow for computation of wastewater disposal from residential use. Wastewater imported to a site, or even withdrawn from on site wells and recharged through sanitary effluent is an additional recharge component which must be considered. If the project is for a commercial use or utilizes a denitrification system, the number of dwellings should not be entered in the Data Entry Field, as the wastewater flow will include recharge and nitrogen components.
31. *Water Use per Dwelling* - The water use should correspond to the total site non-irrigation water use, divided by the number of units.
32. *Wastewater Design Flow* - No entry need be made in this Data Cell. SONIR will compute the Wastewater Design Flow by multiplying the Number of Dwellings by the Water Use per Dwelling.
33. *Commercial/STP Design Flow* - SONIR permits the consideration of recharge from commercial projects, denitrification systems and sewage treatment plants. The Commercial/STP Design Flow is entered in this Data Cell as per County Health Department or engineering design standards.

Site Recharge Computations - Sheet 2

Once data entry is complete for Site Recharge Parameters, SONIR will complete a series of detailed Water Budget computations for the overall site. The following describes the computations which are performed by the model:

- A. *Lawn Area Recharge* - Lawn Area Recharge is determined by use of the basic Hydrologic Budget Equation $[R = P - (E + Q)]$ as defined previously. The quantity of recharge determined by this method is then multiplied by that portion of the site occupied by Lawn Area to determine the component of Lawn Area Recharge in overall site recharge.
- B. *Impervious Area Recharge* - Impervious area recharge is also determined using the Hydrologic Budget Equation; however, the value for runoff is zero (0) due to the fact that runoff is controlled by conveyance to on site leaching facilities or is allowed to runoff into depressions where runoff is recharged on site.
- C. *Unvegetated Area Recharge* - Unvegetated Area Recharge is determined by use of the basic Hydrologic Budget Equation. The quantity of recharge determined by this method is then multiplied by that portion of the site occupied by Unvegetated Area to determine the component of Unvegetated Area Recharge in overall site recharge.
- D. *Water Area Loss* - The Hydrologic Budget Equation is modified to consider Water Area Loss. This is particularly useful in water quantity stressed areas of Long Island. If runoff (Q) is considered be zero (0), then lake storage/recharge without make-up water would be Precipitation minus Evaporation (P - E). The resultant quantity of lake storage/recharge is then reduced by the amount of make-up water (M). The final quantity of loss is then multiplied by that portion of the site occupied by water to determine the component of water loss as related to the overall site water budget.
- E. *Natural Area Recharge* - Natural Area Recharge is determined by use of the basic Hydrologic Budget Equation. The quantity of recharge determined by this method is then multiplied by that portion of the site occupied by Natural Area to determine the component of Natural Area Recharge in overall site recharge.
- F. *Other Area Recharge* - Other Area Recharge is determined by use of the basic Hydrologic Budget Equation. The quantity of recharge determined by this method is then multiplied by that portion of the site occupied by Other Area to determine the component of Other Area Recharge in overall site recharge.
- G. *Irrigation Recharge* - Irrigation recharge is an additional recharge component artificially added on sites where irrigation occurs. This quantity is determined in the same manner as the Hydrologic Water Budget except that the irrigation rate (in inches) is substituted for



precipitation. The resultant recharge is multiplied by the area of the site which is irrigated in order to determine the Irrigation Recharge in overall site recharge.

- H. *Wastewater Recharge* - Wastewater is also a recharge component artificially added to a site. SONIR annualizes the wastewater design flow and assumes it is applied over the entire by multiplying Wastewater Design Flow by the Area of the Site, resulting in a per foot measure of wastewater over the site. This is converted to inches to be included in overall site recharge.

Once the eight (8) series of Site Recharge Computations are complete, SONIR totals each individual component to determine Total Site Recharge. The sum of these recharge contributions, is that quantity of water which is expected to enter the site on an annual basis due to precipitation, after the development is completed. This value is important in determining the concentration of nitrogen in recharge, and is important as a means of determining hydrologic impacts of a project in terms of changes to site recharge.



SITE NITROGEN BUDGET

Overview

The total nitrogen released on a given site must be determined in order to provide a means of simulating nitrogen in recharge. Nitrogen sources include: sanitary nitrogen; fertilizer nitrogen; pet waste nitrogen; precipitation nitrogen; and water supply nitrogen (wastewater and irrigation). The total of these quantities represents total site nitrogen.

Data Input - Sheet 1

The following provides a discussion of data sources and assumptions associated with the nitrogen budget, corresponding to the Data Input Field in Sheet 1 of SONIR:

1. *Persons per Dwelling* - The number of persons per dwelling is a demographic multiplier used in the determination of human population of a site. Based on multipliers listed in "The New Practitioner's Guide to Fiscal Impact Analysis", (**Rutgers, 1985**), the average number of residents is calculated at 0.00/unit (Existing Conditions), and will be 4.1/unit (Proposed Conditions).
2. *Nitrogen per Person per Year* - Annual nitrogen per person is a function of nitrogen bearing waste in wastewater. For residential land use the population of the development is determined and the nitrogen generated is assumed to be 10 pounds per capita per year (**Hughes and Porter, 1983; p. 8**).
3. *Sanitary Nitrogen Leaching Rate* - For normal residential systems, Porter and Hughes report that 50 percent of the nitrogen entering the system is converted to gaseous nitrogen and the remainder leaches into the soil (**Porter and Hughes, 1983; p. 14**).
4. *Area of Land Fertilized 1* - The area of land fertilized is input in Data Cell 4. This value may correspond to the Acreage of Lawn and/or the Acreage of Land Irrigated, but is not necessarily the same value. This entry should be determined on a site-specific basis.
5. *Fertilizer Application Rate 1* - Fertilizer nitrogen is determined by a fertilizer application rate over a specified area of the site. The fertilizer application rates vary depending upon the type of use. The following table indicates the rate of fertilization as a function of use as excerpted from the Nonpoint Source Management Handbook (**Koppelman, 1984; Chapter 5, p.6**):

Residential (contract)	1.5 lbs/1000 sq ft
Residential (unmanaged)	2.3 lbs/1000 sq ft
Commercial	3.5 lbs/1000 sq ft
Golf Course	3.5 lbs/1000 sq ft
Sod Farms	4.0 lbs/1000 sq ft



Recreational Lands

0.2 lbs/1000 sq ft

A commercial landscaping firm has been interviewed to determine trends in commercial fertilizer application. Various fertilizer formulations are used including 10-6-4, 16-4-8 and 20-10-5 (nitrogen-phosphate-potash) depending upon season. Heavier nitrogen application rates are generally used in the spring. Fertilizer used is 50 percent organic nitrogen. This is applied in a dry form approximately 2-3 times per year, and a 50 pound bag is applied over approximately 16,000 square feet. Based on this rate if 20- 10-5 nitrogen were applied in the spring, and 16-4-8 were applied during summer and fall, this would result in an application rate of 1.5-2.1 pounds per 1000 square feet. The high of this range is a conservative value based on three applications of relatively high nitrogen fertilizer, which will be used for nitrogen in recharge simulation.

In addition, it is noted that the Nonpoint Source Management Handbook indicates that application rates as low as 1.0 lb/1000 sq ft can be achieved with proper fertilizer management control.

6. *Fertilizer Nitrogen Leaching Rate 1* - Nitrogen applied as fertilizer is subject to plant uptake (20 to 80%; 50% on average) and storage in thatch and soils (36 to 47%), thereby reducing the total amount of nitrogen leached. The percentage of plant uptake and storage are based on studies cited in the LIRPB's Special Groundwater Protection Area Plan. Based on those studies, a conservative nitrogen leaching rate of 14% has been applied in the model.
7. *Area of Land Fertilized 2* - More than one fertilizer nitrogen input is provided in order allow consideration of mixed use and/or golf course projects where land is fertilized at different rates.
8. *Fertilizer Application Rate 2* - Fertilizer Application Rates for this entry can be determined based upon Data Cell 5 above.
9. *Fertilizer Nitrogen Leaching Rate 2* - Fertilizer Nitrogen Leaching Rates can be determined based upon Data Cell 6 above.
10. *Pet Waste Application Rate* - Pet Waste Nitrogen results from the excretion of domestic pets in the outside environment. There is relatively little definitive information concerning this nitrogen source; however, several references were located and are analyzed herein. The 208 Study provides a table of nitrogen concentration in manure for various animals, not including dogs or cats. Total nitrogen values in the range of 0.30-0.43 lbs/day/1000 lbs live weight are reported for cattle, sheep and horses (**Koppelman, 1978; Animal Waste report p. 3**). It is assumed that dogs constitute the major source of animal waste which would be present in the yards of residential developments. Cat waste would be significantly less due to the lesser live weight of cats and the fact that many cat owners dispose of cat waste in solid waste by using an indoor litter box. If an average of



0.35 lbs of nitrogen is assumed for dogs, and an average of 25 pounds live weight is assumed per dog, then the total annual nitrogen per pet would be 3.19 lbs/year. The only other reference located which approximates nitrogen in pet waste is Land Use and Ground-Water Quality in the Pine Barrens of Southampton (**Hughes and Porter, 1983; p. 10**). This reference assumed an application rate of 6.5 lbs/acre of nitrogen. Pet waste was assumed to be deposited evenly over all turf. This assumption was not correlated to population density or pet density, but only to turfed acreage. In comparison of the two values, the per pet value corresponds to approximately 2 turfed acres. For the purpose of this model, the value of 3.19 lbs/pet/year is considered to be the most justifiable value for pet waste and is entered in this Data Cell.

11. *Pet Waste Nitrogen Leaching Rate* - Pet waste is also subject to a leaching rate factor whereby, 50 percent of the nitrogen applied to the ground is removed as a gas.
12. *Area of Land Irrigated* - No entry need be made in this Data Cell. This value is the same as Data Cell 27 of the Site Recharge Parameters and SONIR will transfer the data entry to this Cell.
13. *Irrigation Rate* - No entry need be made in this Data Cell. This value is the same as Data Cell 29 of the Site Recharge Parameters and SONIR will transfer the data entry to this Cell.
14. *Irrigation Nitrogen Leaching Rate* - Hughes and Porter (**1983; p. 10**) indicate that "plant uptake and gaseous losses are assumed to remove 85% of the nitrogen entering in precipitation". Irrigation nitrogen would be expected to be subject to the same losses, therefore, a leaching rate of 15% is entered in this Data Cell.
15. *Nitrogen in Precipitation* - Groundwater nitrogen is partially derived from rainwater. Nitrate-nitrogen concentrations in precipitation have been reported to be on the order of 1-2 mg/l in Nassau and Suffolk Counties (**SCDHS, 1987; p. 6-4**).
16. *Precipitation Nitrogen Leaching Rate* - As indicated above, a nitrogen leaching rate of 15% is applied to precipitation nitrogen.
17. *Nitrogen in Water Supply* - The concentration of Nitrogen in Water Supply determines the quantity of nitrogen which enters the site as a result of irrigation nitrogen and wastewater flow. Local water supply data should be utilized if available, otherwise a value of between 1 and 2 mg/l could be utilized.
18. *Nitrogen in Commercial/STP Flow* - This data entry allows SONIR to compute the quantity of nitrogen resulting from commercial discharge, denitrification systems and/or sewage treatment plants. Total nitrogen in community wastewater is identified as having

a total nitrogen concentration of 20 mg/l in weak effluent; 40 mg/l in medium strength effluent, and 85 mg/l in strong effluent (**Metcalf & Eddy, Inc, 1991**). It is recommended that a value of 40 mg/l be used for total nitrogen concentration in commercial sanitary systems. Properly functioning denitrification systems and sewage treatment plants are capable of reducing total nitrogen to less than 10 mg/l in accordance with discharge limitations. A value of 10 mg/l can be entered in this data cell for such systems. The SONIR model computes the number of pounds of nitrogen in sanitary discharge as a function of concentration. The absolute nitrogen is utilized in the model; however, it must be recognized that from the discharge point, nitrogen is nitrified through conversion of ammonia to nitrate in the leaching area beneath the discharge point. Further natural transformation in the form of denitrification occurs as a result of bacteria. This causes release of nitrogen gas and may account for further reduction of 50 percent or more subsequent to discharge (**Canter and Knox, 1979; pp. 77-78; Hughes and Porter, 1983; p. 14**). As a result SONIR is conservative in predicting the concentration of nitrogen in recharge, and when natural denitrification of sanitary effluent is considered, actual concentration would be less.

Site Nitrogen Budget - Sheet 2

Once data entry is complete for Nitrogen Budget Parameters, SONIR will complete a series of detailed computations to determine the individual component of nitrogen from each source and the total nitrogen for the overall site and use. The following describes the computations which are performed by the model:

- A. *Sanitary Nitrogen - Residential* - SONIR establishes the site population using the number of units on the site, and the demographic multiplier. The nitrogen load factor is then applied and reduced by the leaching rate, resulting in the total residential nitrogen component. If the project is for a commercial use or utilizes a denitrification system, the number of dwellings should not be entered in the Data Entry Field, in which case the total nitrogen from this source will be zero (0).
- B. *Pet Waste Nitrogen* - The pet waste nitrogen was determined on a per pet basis; however, the number of pets for a given residential project must be determined. In order to correlate the number of pets to human population, a ratio was determined using information contained in the 208 Study, wherein it was estimated that there is 1 dog per 5 residents in suburban areas and 1 dog per 7 residents in urban areas (**Koppelman, 1978; Animal Waste Report, pp. 6**). This results in an average number of dogs based upon 17 percent of the human population. Accordingly, this multiplier is used based upon the population of a land use project in order to estimate the nitrogen waste from pets. The pet waste nitrogen is subject to



reduction as a function of the leaching rate, leading to the total pet waste nitrogen in pounds.

- C. *Sanitary Nitrogen (Commercial/STP)* - SONIR utilizes the Commercial/STP Flow which is converted to liters and multiplied by the nitrogen concentration in waste. This provides a weight of nitrogen in milligrams which is converted to pounds for the total nitrogen from this component.
- D. *Water Supply Nitrogen* - SONIR utilizes the residential wastewater design flow to compute the weight of nitrogen contributed from the water supply. The method of calculation is the same as Sanitary Nitrogen (Commercial/STP). For commercial projects, this value is accounted for in the Commercial/STP Flow.
- E. *Fertilizer Nitrogen 1* - This calculation utilizes data entry from the Area of Land Fertilized 1, in the Data Input Field, to determine the weight of fertilizer nitrogen applied to the area. The area is multiplied by the application rate and reduced by the leaching rate documented previously to arrive at total weight.
- F. *Fertilizer Nitrogen 2* - If fertilization rates vary, the Area of Land Fertilized 2, is utilized to determine nitrogen from this source.
- G. *Precipitation Nitrogen* - Nitrogen in precipitation is considered by determining the liters of Natural Recharge entering the site, multiplied by the concentration of nitrogen in precipitation. SONIR uses the sum of natural recharge components from the Site Recharge Computations to establish the natural recharge. A precipitation nitrogen leaching rate of 15% is utilized as referenced above.
- H. *Irrigation Nitrogen* - Although a very small component, the Irrigation Nitrogen is determined using the Irrigation Recharge R(irr) computed in the Site Recharge Computations, over the irrigated area of the site to produce a volume of irrigation recharge. The Irrigation Recharge value is used in order to account for reduction of recharge due to evapotranspiration, since this component is only intended to determine nitrogen leaching into soil as a result of irrigation nitrogen in the water supply. This value is converted to liters and multiplied by the concentration of nitrogen in irrigation water supply. The Irrigation Nitrogen Leaching Rate (expected to be the same as for precipitation), is applied to the weight to determine the total nitrogen from this source.

Once the eight (8) series of Site Nitrogen Budget computations are complete, SONIR totals each individual component to determine the Total Site Nitrogen. This value is used in determining the weight per volume ratio of nitrogen in recharge as computed in Sheet 4 of the SONIR model.



FINAL COMPUTATIONS AND SUMMARY

SONIR utilizes data generated in Sheets 2 and 3 of the model to compute a mass/volume ratio for nitrogen in recharge. Nitrogen in recharge is converted from pounds to milligrams in order to provide units compatible for mass/volume concentration. Likewise, the quantity of site recharge is applied over the site in order to determine an overall volume number for site recharge. This is then converted to liters. The final computation divides the total weight of nitrogen in milligrams, by the total volume of recharge in liters, to arrive at the Nitrogen in Recharge ratio in milligrams per liter (mg/l). This concentration represents the Final Concentration of Nitrogen in Recharge which is highlighted on Sheet 4.

Sheet 4 also provides a site recharge summary in order to compare recharge between natural conditions, a proposed project and/or alternatives. Total Site Recharge is presented in both inches, and as a volume in cubic feet/year, gallons/year and million gallons/year (MGY).

The final field summarizes the Conversions Used in SONIR. Conversions are standard conversion multipliers as found in standard engineering references.

SONIR is a valuable tool allowing for versatile determination of site recharge as determined from many components of site recharge. SONIR determines the weight of nitrogen applied to a site from a variety of sources as well. SONIR is a fully referenced model utilizing basic hydrologic and engineering principals, in a simulation of nitrogen in recharge. Input data should be carefully justified in order to achieve best results. SONIR can be used effectively in comparing land use alternatives and relative impact upon groundwater due to nitrogen. By running the model for Existing Conditions, Proposed Project conditions and/or alternative land uses comparison of impacts can be made for consideration in land use decision-making. Questions, comments or suggestions concerning this model should be addressed to Nelson, Pope & Voorhis, LLC, 572 Walt Whitman Road, Melville, New York 11747.



SIMULATION OF NITROGEN IN RECHARGE (SONIR)

NELSON, POPE & VOORHIS, LLC MICROCOMPUTER MODEL

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Appendix C-2
Existing Conditions



SIMULATION OF NITROGEN IN RECHARGE (SONIR)

NELSON, POPE & VOORHIS, LLC MICROCOMPUTER MODEL

NAME OF PROJECT

Five Towns College

DATA INPUT FIELD

Existing Conditions

SHEET 1

A	Site Recharge Parameters	Value	Units
1	Area of Site	33.60	acres
2	Precipitation Rate	43.65	inches
3	Acreage of Lawn	12.63	acres
4	Fraction of Land in Lawn	0.376	fraction
5	Evapotranspiration from Lawn	21.40	inches
6	Runoff from Lawn	0.31	inches
7	Acreage of Impervious	8.88	acres
8	Fraction of Land Impervious	0.264	fraction
9	Evaporation from Impervious	4.28	inches
10	Runoff from Impervious	0.00	inches
11	Acreage of Unvegetated	1.34	acres
12	Fraction of Land Unvegetated	0.040	fraction
13	Evapotrans. from Unvegetated	24.20	inches
14	Runoff from Unvegetated	0.7	inches
15	Acreage of Water	0.00	acres
16	Fraction of Site in Water	0.000	fraction
17	Evaporation from Water	30.00	inches
18	Makeup Water (if applicable)	0.00	inches
19	Acreage of Natural Area	10.75	acres
20	Fraction of Land Natural	0.320	fraction
21	Evapotrans. from Natural Area	24.20	inches
22	Runoff from Natural Area	0.31	inches
23	Acreage of Other Area	0.00	acres
24	Fraction of Land Other Area	0.000	fraction
25	Evapotrans. from Other Area	0.00	inches
26	Runoff from Other Area	0.00	inches
27	Acreage of Land Irrigated	0.89	acres
28	Fraction of Land Irrigated	0.026	fraction
29	Irrigation Rate	5.50	inches
30	Number of Dwellings	0	units
31	Water Use per Dwelling	0	gal/day
32	Wastewater Design Flow	12,505	gal/day
33	Commercial /STP Design Flow	0	gal/day

B	Nitrogen Budget Parameters	Value	Units
1	Persons per Dwelling	0.00	persons
2	Nitrogen per Person per Year	0.0	lbs
3	Sanitary Nitrogen Leaching Rate	0	percent
4	Area of Land Fertilized 1	0.89	acres
5	Fertilizer Application Rate 1	2.00	lbs/1000 sq ft
6	Fertilizer Nitrogen Leaching Rate 1	14	percent
7	Area of Land Fertilized 2	0.00	acres
8	Fertilizer Application Rate 2	0.00	lbs/1000 sq ft
9	Fertilizer Nitrogen Leaching Rate 2	0	percent
10	Pet Waste Application Rate	0.00	lbs/pet
11	Pet Waste Nitrogen Leaching Rate	0	percent
12	Area of Land Irrigated	0.89	acres
13	Irrigation Rate	5.50	inches
14	Irrigation Nitrogen Leaching Rate	15	percent
15	Nitrogen in Precipitation	1.00	mg/l
16	Precipitation Nitrogen Leaching Rate	15	percent
17	Nitrogen in Water Supply	1.00	mg/l
18	Nitrogen in Commercial/STP Flow	35.00	mg/l

C	Comments
1)	Please refer to user manual for data input instructions.

SIMULATION OF NITROGEN IN RECHARGE (SONIR)

NELSON, POPE & VOORHIS, LLC MICROCOMPUTER MODEL

SITE RECHARGE COMPUTATIONS

Existing Conditions

SHEET 2

A Lawn Area Recharge		
1	A = Fraction of Land in Lawn	0.376 fraction
2	P = Precipitation Rate	43.65 inches
3	E = Evapotranspiration Rate	21.40 inches
4	Q = Runoff Rate	0.31 inches
5	$R(l) = P - (E + Q)$	21.94 inches
6	$R(L) = R(l) \times A$	8.25 inches

B Impervious Area Recharge		
1	A = Fraction of Land in Impervious	0.264 fraction
2	P = Precipitation Rate	43.65 inches
3	E = Evapotranspiration Rate	4.28 inches
4	Q = Runoff Rate	0.00 inches
5	$R(i) = P - (E + Q)$	39.37 inches
6	$R(I) = R(i) \times A$	10.40 inches

C Unvegetated Area Recharge		
1	A = Fraction of Land Unveg.	0.040 fraction
2	P = Precipitation Rate	43.65 inches
3	E = Evapotranspiration Rate	0.70 inches
4	Q = Runoff Rate	1.00 inches
5	$R(u) = P - (E + Q)$	41.95 inches
6	$R(U) = R(u) \times A$	1.67 inches

D Water Area Loss		
1	A = Fraction of Site in Water	0.000 fraction
2	P = Precipitation Rate	43.65 inches
3	E = Evaporation Rate	30.00 inches
4	Q = Runoff Rate	0.00 inches
5	M = Makeup Water	0.00 inches
6	$R(w) = \{P - (E + Q)\} - M$	13.65 inches
7	$R(W) = R(w) \times A$	0.00 inches

E Natural Area Recharge		
1	A = Fraction of Land in Natural	0.320 fraction
2	P = Precipitation Rate	43.65 inches
3	E = Evapotranspiration Rate	24.20 inches
4	Q = Runoff Rate	0.31 inches
5	$R(n) = P - (E + Q)$	19.14 inches
6	$R(N) = R(n) \times A$	6.12 inches

F Other Area Recharge		
1	A = Fraction of Land in Other	0.000 fraction
2	P = Precipitation Rate	43.65 inches
3	E = Evapotranspiration Rate	0.00 inches
4	Q = Runoff Rate	0.00 inches
5	$R(o) = P - (E + Q)$	43.65 inches
6	$R(O) = R(o) \times A$	0.00 inches

G Irrigation Recharge		
1	A = Fraction of Land Irrigated	0.026 fraction
2	I = Irrigation Rate	5.50 inches
3	E = Evapotranspiration Rate	2.70 inches
4	Q = Runoff Rate	0.31 inches
5	$R(irr) = I - (E + Q)$	2.49 inches
6	$R(IRR) = R(irr) \times A$	0.07 inches

H Wastewater Recharge		
1	WDF = Wastewater Design Flow	12,505 gal/day
2	WDF = Wastewater Design Flow	610,250.25 cu ft/yr
3	A = Area of Site	1,463,616 sq ft
4	$R(ww) = WDF/A$	0.42 feet
5	$R(WW) = \text{Wastewater Recharge}$	5.00 inches

Total Site Recharge		
$R(T) =$	$R(L) + R(I) + R(U) + R(W) + R(N) + R(O) + R(IRR) + R(WW)$	
$R(T) =$	31.52	inches

SIMULATION OF NITROGEN IN RECHARGE (SONIR)

NELSON, POPE & VOORHIS, LLC MICROCOMPUTER MODEL

SITE NITROGEN BUDGET

Existing Conditions

SHEET 3

A Sanitary Nitrogen-Residential			B Pet Waste Nitrogen		
	<i>Value</i>	<i>Units</i>		<i>Value</i>	<i>Units</i>
1 Number of Dwellings	0	units	1 AR = Application Rate	0.00	lbs/pet
2 Persons per Dwelling	0.00	capita	2 Human Population	0	capita
3 P = Population	0.00	capita	3 Pets = 17 percent of capita	0	pets
4 N = Nitrogen per person	0	lbs	4 N(p) = AR x pets	0.00	lbs
5 LR = Leaching Rate	0	percent	5 LR = Leaching Rate	0	percent
6 N(S) = P x N x LR	0.00	lbs	6 N(P) = N(p) x LR	0.00	lbs
7 N(S) = Sanitary Nitrogen	0.00	lbs	7 N(P) = Pet Waste Nitrogen	0.00	lbs

C Sanitary Nitrogen (Commercial/STP)			D Water Supply Nitrogen		
1 CF = Commercial/STP Flow	12,505	gal/day	1 WDF = Wastewater Design Flow	12,505	gal/day
2 CF = Commercial/STP Flow	17,275,970	liters/yr	2 WDF = Wastewater Design Flow	17,275,970	liters/yr
3 N = Nitrogen in Commercial	35.00	mg/l	3 N = Nitrogen in Water Supply	1.00	mg/l
4 N(S) = CF x N	604,658,954	milligrams	4 N(WW) = WDF x N	17,275,970	milligrams
5 N(S) = Sanitary Nitrogen	1333.27	lbs	5 N(WW) = Wastewater Nitrogen	38.09	lbs

E Fertilizer Nitrogen 1			F Fertilizer Nitrogen 2		
1 A = Area of Land Fertilized 1	38,768	sq ft	1 A = Area of Land Fertilized 2	0	sq ft
2 AR = Application Rate	2.00	lbs/1000 sf	2 AR = Application Rate	0.00	lbs/1000 sf
3 LR = Leaching Rate	14	percent	3 LR = Leaching Rate	0	percent
4 N(F1) = A x AR x LR	10.86	lbs	4 N(F2) = A x AR x LR	0.00	lbs
5 N(F1) = Fertilizer Nitrogen	10.86	lbs	5 N(F2) = Fertilizer Nitrogen	0.00	lbs

G Precipitation Nitrogen			H Irrigation Nitrogen		
1 R(n) = Natural Recharge (feet)	2.20	feet	1 R = Irrigation Recharge (inches)	2.49	inches
2 A = Area of Site (sq ft)	1,463,616	sq ft	2 R = Irrigation Rate (feet)	0.21	feet
3 R(N) = R(n) x A	3,225,893	cu ft	3 A = Area of Land Irrigated	38,768	sq ft
4 R(N) = Natural Recharge (liters)	91,357,294	liters	4 R(I) = R(irr) x A	8,056	cu ft
5 N = Nitrogen in Precipitation	1.00	mg/l	5 R(I) = Site Precipitation (liters)	228,144	liters
6 LR = Leaching Rate	15	percent	6 N = Nitrogen in Water Supply	1.00	mg/l
7 N(ppt) = P(S) x N x LR	913,573	milligrams	7 LR = Leaching Rate	15	percent
8 N(ppt) = Precipitation Nitrogen	2.01	lbs	8 N(irr) = R(I) x N x LR	34,222	milligrams
			9 N(irr) = Irrigation Nitrogen	0.08	lbs

Total Site Nitrogen		
N=	N(S) + N(P) + N(WW) + N(F1) + N(F2) + N(ppt) + N(irr)	
N=	1384.31	lbs

SIMULATION OF NITROGEN IN RECHARGE (SONIR)

NELSON, POPE & VOORHIS, LLC MICROCOMPUTER MODEL

NAME OF PROJECT

Five Towns College

Existing Conditions

FINAL COMPUTATIONS

SHEET 4

<i>A</i>	<i>Nitrogen in Recharge</i>	<i>Value</i>	<i>Units</i>
1	N = Total Nitrogen (lbs)	1384.31	lbs
2	N = Total Nitrogen (milligrams)	628,477,442	milligrams
3	R(T) = Total Recharge (inches)	31.52	inches
4	R(T) = Total Recharge (feet)	2.63	feet
5	A = Area of Site	1,463,616	sq ft
6	R = R(T) x A	3,844,199	cu ft
7	R = Site Recharge Volume	108,867,725	liters
9	NR = N/R	5.77	mg/l

FINAL CONCENTRATION OF
NITROGEN IN RECHARGE

5.77

<i>B</i>	<i>Site Recharge Summary</i>	<i>Value</i>	<i>Units</i>
1	R(T) = Total Site Recharge	31.52	inches/yr
2	R = Site Recharge Volume	3,844,199	cu ft/yr
3	R = Site Recharge Volume	28,756,610	gal/yr
4	R = Site Recharge Volume	28.76	MG/yr

Conversions used in SONIR

Acres x 43,560 = Square Feet
Cubic Feet x 7.48052 = Gallons
Cubic Feet x 28.32 = Liters
Days x 365 = Years
Feet x 12 = Inches
Gallons x 0.1337 = Cubic Feet
Gallons x 3.785 = Liters
Grams / 1,000 = Milligrams
Grams x 0.002205 = Pounds
Milligrams / 1,000 = Grams

**Appendix C-3
Proposed Project**



SIMULATION OF NITROGEN IN RECHARGE (SONIR)

NELSON, POPE & VOORHIS, LLC MICROCOMPUTER MODEL

NAME OF PROJECT

Five Towns College

DATA INPUT FIELD

Proposed Project

SHEET 1

A	Site Recharge Parameters	Value	Units
1	Area of Site	33.60	acres
2	Precipitation Rate	43.65	inches
3	Acreage of Lawn	12.63	acres
4	Fraction of Land in Lawn	0.376	fraction
5	Evapotranspiration from Lawn	21.40	inches
6	Runoff from Lawn	0.31	inches
7	Acreage of Impervious	10.22	acres
8	Fraction of Land Impervious	0.304	fraction
9	Evaporation from Impervious	4.28	inches
10	Runoff from Impervious	0.00	inches
11	Acreage of Unvegetated	0.00	acres
12	Fraction of Land Unvegetated	0.000	fraction
13	Evapotrans. from Unvegetated	24.20	inches
14	Runoff from Unvegetated	0.7	inches
15	Acreage of Water	0.00	acres
16	Fraction of Site in Water	0.000	fraction
17	Evaporation from Water	30.00	inches
18	Makeup Water (if applicable)	0.00	inches
19	Acreage of Natural Area	10.75	acres
20	Fraction of Land Natural	0.320	fraction
21	Evapotrans. from Natural Area	24.20	inches
22	Runoff from Natural Area	0.31	inches
23	Acreage of Other Area	0.00	acres
24	Fraction of Land Other Area	0.000	fraction
25	Evapotrans. from Other Area	0.00	inches
26	Runoff from Other Area	0.00	inches
27	Acreage of Land Irrigated	1.99	acres
28	Fraction of Land Irrigated	0.059	fraction
29	Irrigation Rate	5.50	inches
30	Number of Dwellings	0	units
31	Water Use per Dwelling	0	gal/day
32	Wastewater Design Flow	20,150	gal/day
33	Commercial /STP Design Flow	0	gal/day

B	Nitrogen Budget Parameters	Value	Units
1	Persons per Dwelling	0.00	persons
2	Nitrogen per Person per Year	0.0	lbs
3	Sanitary Nitrogen Leaching Rate	0	percent
4	Area of Land Fertilized 1	1.99	acres
5	Fertilizer Application Rate 1	2.00	lbs/1000 sq ft
6	Fertilizer Nitrogen Leaching Rate 1	14	percent
7	Area of Land Fertilized 2	0.00	acres
8	Fertilizer Application Rate 2	0.00	lbs/1000 sq ft
9	Fertilizer Nitrogen Leaching Rate 2	0	percent
10	Pet Waste Application Rate	0.00	lbs/pet
11	Pet Waste Nitrogen Leaching Rate	0	percent
12	Area of Land Irrigated	1.99	acres
13	Irrigation Rate	5.50	inches
14	Irrigation Nitrogen Leaching Rate	15	percent
15	Nitrogen in Precipitation	1.00	mg/l
16	Precipitation Nitrogen Leaching Rate	15	percent
17	Nitrogen in Water Supply	1.00	mg/l
18	Nitrogen in Commercial/STP Flow	35.00	mg/l

C	Comments
1)	Please refer to user manual for data input instructions.

SIMULATION OF NITROGEN IN RECHARGE (SONIR)

NELSON, POPE & VOORHIS, LLC MICROCOMPUTER MODEL

SITE RECHARGE COMPUTATIONS

Proposed Project

SHEET 2

A Lawn Area Recharge		
1	A = Fraction of Land in Lawn	0.376 fraction
2	P = Precipitation Rate	43.65 inches
3	E = Evapotranspiration Rate	21.40 inches
4	Q = Runoff Rate	0.31 inches
5	$R(l) = P - (E + Q)$	21.94 inches
6	$R(L) = R(l) \times A$	8.25 inches

B Impervious Area Recharge		
1	A = Fraction of Land in Impervious	0.304 fraction
2	P = Precipitation Rate	43.65 inches
3	E = Evapotranspiration Rate	4.28 inches
4	Q = Runoff Rate	0.00 inches
5	$R(i) = P - (E + Q)$	39.37 inches
6	$R(I) = R(i) \times A$	11.98 inches

C Unvegetated Area Recharge		
1	A = Fraction of Land Unveg.	0.000 fraction
2	P = Precipitation Rate	43.65 inches
3	E = Evapotranspiration Rate	0.70 inches
4	Q = Runoff Rate	1.00 inches
5	$R(u) = P - (E + Q)$	41.95 inches
6	$R(U) = R(u) \times A$	0.00 inches

D Water Area Loss		
1	A = Fraction of Site in Water	0.000 fraction
2	P = Precipitation Rate	43.65 inches
3	E = Evaporation Rate	30.00 inches
4	Q = Runoff Rate	0.00 inches
5	M = Makeup Water	0.00 inches
6	$R(w) = \{P - (E + Q)\} - M$	13.65 inches
7	$R(W) = R(w) \times A$	0.00 inches

E Natural Area Recharge		
1	A = Fraction of Land in Natural	0.320 fraction
2	P = Precipitation Rate	43.65 inches
3	E = Evapotranspiration Rate	24.20 inches
4	Q = Runoff Rate	0.31 inches
5	$R(n) = P - (E + Q)$	19.14 inches
6	$R(N) = R(n) \times A$	6.12 inches

F Other Area Recharge		
1	A = Fraction of Land in Other	0.000 fraction
2	P = Precipitation Rate	43.65 inches
3	E = Evapotranspiration Rate	0.00 inches
4	Q = Runoff Rate	0.00 inches
5	$R(o) = P - (E + Q)$	43.65 inches
6	$R(O) = R(o) \times A$	0.00 inches

G Irrigation Recharge		
1	A = Fraction of Land Irrigated	0.059 fraction
2	I = Irrigation Rate	5.50 inches
3	E = Evapotranspiration Rate	2.70 inches
4	Q = Runoff Rate	0.31 inches
5	$R(irr) = I - (E + Q)$	2.49 inches
6	$R(IRR) = R(irr) \times A$	0.15 inches

H Wastewater Recharge		
1	WDF = Wastewater Design Flow	20,150 gal/day
2	WDF = Wastewater Design Flow	983,330.08 cu ft/yr
3	A = Area of Site	1,463,616 sq ft
4	$R(w) = WDF/A$	0.67 feet
5	$R(WW) = Wastewater Recharge$	8.06 inches

Total Site Recharge		
$R(T) =$	$R(L) + R(I) + R(U) + R(W) + R(N) + R(O) + R(IRR) + R(WW)$	
$R(T) =$	34.56	inches

SIMULATION OF NITROGEN IN RECHARGE (SONIR)

NELSON, POPE & VOORHIS, LLC MICROCOMPUTER MODEL

SITE NITROGEN BUDGET

Proposed Project

SHEET 3

A	Sanitary Nitrogen-Residential	Value	Units	B	Pet Waste Nitrogen	Value	Units
1	Number of Dwellings	0	units	1	AR = Application Rate	0.00	lbs/pet
2	Persons per Dwelling	0.00	capita	2	Human Population	0	capita
3	P = Population	0.00	capita	3	Pets = 17 percent of capita	0	pets
4	N = Nitrogen per person	0	lbs	4	N(p) = AR x pets	0.00	lbs
5	LR = Leaching Rate	0	percent	5	LR = Leaching Rate	0	percent
6	N(S) = P x N x LR	0.00	lbs	6	N(P) = N(p) x LR	0.00	lbs
7	N(S) = Sanitary Nitrogen	0.00	lbs	7	N(P) = Pet Waste Nitrogen	0.00	lbs

C	Sanitary Nitrogen (Commercial/STP)	Value	Units	D	Water Supply Nitrogen	Value	Units
1	CF = Commercial/STP Flow	20,150	gal/day	1	WDF = Wastewater Design Flow	20,150	gal/day
2	CF = Commercial/STP Flow	27,837,729	liters/yr	2	WDF = Wastewater Design Flow	27,837,729	liters/yr
3	N = Nitrogen in Commercial	35.00	mg/l	3	N = Nitrogen in Water Supply	1.00	mg/l
4	N(S) = CF x N	974,320,506	milligrams	4	N(WW) = WDF x N	27,837,729	milligrams
5	N(S) = Sanitary Nitrogen	2148.38	lbs	5	N(WW) = Wastewater Nitrogen	61.38	lbs

E	Fertilizer Nitrogen 1	Value	Units	F	Fertilizer Nitrogen 2	Value	Units
1	A = Area of Land Fertilized 1	86,684	sq ft	1	A = Area of Land Fertilized 2	0	sq ft
2	AR = Application Rate	2.00	lbs/1000 sf	2	AR = Application Rate	0.00	lbs/1000 sf
3	LR = Leaching Rate	14	percent	3	LR = Leaching Rate	0	percent
4	N(F1) = A x AR x LR	24.27	lbs	4	N(F2) = A x AR x LR	0.00	lbs
5	N(F1) = Fertilizer Nitrogen	24.27	lbs	5	N(F2) = Fertilizer Nitrogen	0.00	lbs

G	Precipitation Nitrogen	Value	Units	H	Irrigation Nitrogen	Value	Units
1	R(n) = Natural Recharge (feet)	2.20	feet	1	R = Irrigation Recharge (inches)	2.49	inches
2	A = Area of Site (sq ft)	1,463,616	sq ft	2	R = Irrigation Rate (feet)	0.21	feet
3	R(N) = R(n) x A	3,213,344	cu ft	3	A = Area of Land Irrigated	86,684	sq ft
4	R(N) = Natural Recharge (liters)	91,001,888	liters	4	R(I) = R(irr) x A	18,013	cu ft
5	N = Nitrogen in Precipitation	1.00	mg/l	5	R(I) = Site Precipitation (liters)	510,119	liters
6	LR = Leaching Rate	15	percent	6	N = Nitrogen in Water Supply	1.00	mg/l
7	N(ppt) = P(S) x N x LR	910,019	milligrams	7	LR = Leaching Rate	15	percent
8	N(ppt) = Precipitation Nitrogen	2.01	lbs	8	N(irr) = R(I) x N x LR	76,518	milligrams
				9	N(irr) = Irrigation Nitrogen	0.17	lbs

Total Site Nitrogen		
N=	N(S) + N(P) + N(WW) + N(F1) + N(F2) + N(ppt) + N(irr)	
N=	2236.21	lbs

SIMULATION OF NITROGEN IN RECHARGE (SONIR)

NELSON, POPE & VOORHIS, LLC MICROCOMPUTER MODEL

NAME OF PROJECT

Five Towns College

Proposed Project

FINAL COMPUTATIONS

SHEET 4

<i>A</i>	<i>Nitrogen in Recharge</i>	<i>Value</i>	<i>Units</i>
1	N = Total Nitrogen (lbs)	2236.21	lbs
2	N = Total Nitrogen (milligrams)	1,015,237,458	milligrams
3	R(T) = Total Recharge (inches)	34.56	inches
4	R(T) = Total Recharge (feet)	2.88	feet
5	A = Area of Site	1,463,616	sq ft
6	R = R(T) x A	4,214,686	cu ft
7	R = Site Recharge Volume	119,359,915	liters
9	NR = N/R	8.51	mg/l

FINAL CONCENTRATION OF
NITROGEN IN RECHARGE

8.51

<i>B</i>	<i>Site Recharge Summary</i>	<i>Value</i>	<i>Units</i>
1	R(T) = Total Site Recharge	34.56	inches/yr
2	R = Site Recharge Volume	4,214,686	cu ft/yr
3	R = Site Recharge Volume	31,528,045	gal/yr
4	R = Site Recharge Volume	31.53	MG/yr

Conversions used in SONIR

Acres x 43,560 = Square Feet
Cubic Feet x 7.48052 = Gallons
Cubic Feet x 28.32 = Liters
Days x 365 = Years
Feet x 12 = Inches
Gallons x 0.1337 = Cubic Feet
Gallons x 3.785 = Liters
Grams / 1,000 = Milligrams
Grams x 0.002205 = Pounds
Milligrams / 1,000 = Grams

**Appendix C-4
Alternatives**



SIMULATION OF NITROGEN IN RECHARGE (SONIR)

NELSON, POPE & VOORHIS, LLC MICROCOMPUTER MODEL

NAME OF PROJECT

Five Towns College

DATA INPUT FIELD

Alternative 1

SHEET 1

<i>A</i>	<i>Site Recharge Parameters</i>	<i>Value</i>	<i>Units</i>
1	Area of Site	33.60	acres
2	Precipitation Rate	43.65	inches
3	Acreage of Lawn	13.05	acres
4	Fraction of Land in Lawn	0.388	fraction
5	Evapotranspiration from Lawn	21.40	inches
6	Runoff from Lawn	0.31	inches
7	Acreage of Impervious	9.80	acres
8	Fraction of Land Impervious	0.292	fraction
9	Evaporation from Impervious	4.28	inches
10	Runoff from Impervious	0.00	inches
11	Acreage of Unvegetated	0.00	acres
12	Fraction of Land Unvegetated	0.000	fraction
13	Evapotrans. from Unvegetated	24.20	inches
14	Runoff from Unvegetated	0.7	inches
15	Acreage of Water	0.00	acres
16	Fraction of Site in Water	0.000	fraction
17	Evaporation from Water	30.00	inches
18	Makeup Water (if applicable)	0.00	inches
19	Acreage of Natural Area	10.75	acres
20	Fraction of Land Natural	0.320	fraction
21	Evapotrans. from Natural Area	24.20	inches
22	Runoff from Natural Area	0.31	inches
23	Acreage of Other Area	0.00	acres
24	Fraction of Land Other Area	0.000	fraction
25	Evapotrans. from Other Area	0.00	inches
26	Runoff from Other Area	0.00	inches
27	Acreage of Land Irrigated	2.20	acres
28	Fraction of Land Irrigated	0.065	fraction
29	Irrigation Rate	5.50	inches
30	Number of Dwellings	0	units
31	Water Use per Dwelling	0	gal/day
32	Wastewater Design Flow	20,160	gal/day
33	Commercial /STP Design Flow	0	gal/day

<i>B</i>	<i>Nitrogen Budget Parameters</i>	<i>Value</i>	<i>Units</i>
1	Persons per Dwelling	0.00	persons
2	Nitrogen per Person per Year	0.0	lbs
3	Sanitary Nitrogen Leaching Rate	0	percent
4	Area of Land Fertilized 1	2.20	acres
5	Fertilizer Application Rate 1	2.00	lbs/1000 sq ft
6	Fertilizer Nitrogen Leaching Rate 1	14	percent
7	Area of Land Fertilized 2	0.00	acres
8	Fertilizer Application Rate 2	0.00	lbs/1000 sq ft
9	Fertilizer Nitrogen Leaching Rate 2	0	percent
10	Pet Waste Application Rate	0.00	lbs/pet
11	Pet Waste Nitrogen Leaching Rate	0	percent
12	Area of Land Irrigated	2.20	acres
13	Irrigation Rate	5.50	inches
14	Irrigation Nitrogen Leaching Rate	15	percent
15	Nitrogen in Precipitation	1.00	mg/l
16	Precipitation Nitrogen Leaching Rate	15	percent
17	Nitrogen in Water Supply	1.00	mg/l
18	Nitrogen in Commercial/STP Flow	35.00	mg/l

<i>C</i>	<i>Comments</i>
1)	Please refer to user manual for data input instructions.

SIMULATION OF NITROGEN IN RECHARGE (SONIR)

NELSON, POPE & VOORHIS, LLC MICROCOMPUTER MODEL

SITE RECHARGE COMPUTATIONS

Alternative 1

SHEET 2

A Lawn Area Recharge			B Impervious Area Recharge		
	<i>Value</i>	<i>Units</i>		<i>Value</i>	<i>Units</i>
1 A = Fraction of Land in Lawn	0.388	fraction	1 A = Fraction of Land in Impervious	0.292	fraction
2 P = Precipitation Rate	43.65	inches	2 P = Precipitation Rate	43.65	inches
3 E = Evapotranspiration Rate	21.40	inches	3 E = Evapotranspiration Rate	4.28	inches
4 Q = Runoff Rate	0.31	inches	4 Q = Runoff Rate	0.00	inches
5 $R(l) = P - (E + Q)$	21.94	inches	5 $R(i) = P - (E + Q)$	39.37	inches
6 $R(L) = R(l) \times A$	8.52	inches	6 $R(I) = R(i) \times A$	11.48	inches

C Unvegetated Area Recharge			D Water Area Loss		
	<i>Value</i>	<i>Units</i>		<i>Value</i>	<i>Units</i>
1 A = Fraction of Land Unveg.	0.000	fraction	1 A = Fraction of Site in Water	0.000	fraction
2 P = Precipitation Rate	43.65	inches	2 P = Precipitation Rate	43.65	inches
3 E = Evapotranspiration Rate	0.70	inches	3 E = Evaporation Rate	30.00	inches
4 Q = Runoff Rate	1.00	inches	4 Q = Runoff Rate	0.00	inches
5 $R(u) = P - (E + Q)$	41.95	inches	5 M = Makeup Water	0.00	inches
6 $R(U) = R(u) \times A$	0.00	inches	6 $R(w) = \{P - (E + Q)\} - M$	13.65	inches
			7 $R(W) = R(w) \times A$	0.00	inches

E Natural Area Recharge			F Other Area Recharge		
	<i>Value</i>	<i>Units</i>		<i>Value</i>	<i>Units</i>
1 A = Fraction of Land in Natural	0.320	fraction	1 A = Fraction of Land in Other	0.000	fraction
2 P = Precipitation Rate	43.65	inches	2 P = Precipitation Rate	43.65	inches
3 E = Evapotranspiration Rate	24.20	inches	3 E = Evapotranspiration Rate	0.00	inches
4 Q = Runoff Rate	0.31	inches	4 Q = Runoff Rate	0.00	inches
5 $R(n) = P - (E + Q)$	19.14	inches	5 $R(o) = P - (E + Q)$	43.65	inches
6 $R(N) = R(n) \times A$	6.12	inches	6 $R(O) = R(o) \times A$	0.00	inches

G Irrigation Recharge			H Wastewater Recharge		
	<i>Value</i>	<i>Units</i>		<i>Value</i>	<i>Units</i>
1 A = Fraction of Land Irrigated	0.065	fraction	1 WDF = Wastewater Design Flow	20,160	gal/day
2 I = Irrigation Rate	5.50	inches	2 WDF = Wastewater Design Flow	983,818.08	cu ft/yr
3 E = Evapotranspiration Rate	2.70	inches	3 A = Area of Site	1,463,616	sq ft
4 Q = Runoff Rate	0.31	inches	4 $R(ww) = WDF/A$	0.67	feet
5 $R(irr) = I - (E + Q)$	2.49	inches	5 $R(WW) = Wastewater\ Recharge$	8.07	inches
6 $R(IRR) = R(irr) \times A$	0.16	inches			

Total Site Recharge		
$R(T) =$	$R(L) + R(I) + R(U) + R(W) + R(N) + R(O) + R(IRR) + R(WW)$	
$R(T) =$	34.36	inches

SIMULATION OF NITROGEN IN RECHARGE (SONIR)

NELSON, POPE & VOORHIS, LLC MICROCOMPUTER MODEL

SITE NITROGEN BUDGET

Alternative 1

SHEET 3

A Sanitary Nitrogen-Residential			B Pet Waste Nitrogen		
	<i>Value</i>	<i>Units</i>		<i>Value</i>	<i>Units</i>
1 Number of Dwellings	0	units	1 AR = Application Rate	0.00	lbs/pet
2 Persons per Dwelling	0.00	capita	2 Human Population	0	capita
3 P = Population	0.00	capita	3 Pets = 17 percent of capita	0	pets
4 N = Nitrogen per person	0	lbs	4 N(p) = AR x pets	0.00	lbs
5 LR = Leaching Rate	0	percent	5 LR = Leaching Rate	0	percent
6 N(S) = P x N x LR	0.00	lbs	6 N(P) = N(p) x LR	0.00	lbs
7 N(S) = Sanitary Nitrogen	0.00	lbs	7 N(P) = Pet Waste Nitrogen	0.00	lbs

C Sanitary Nitrogen (Commercial/STP)			D Water Supply Nitrogen		
1 CF = Commercial/STP Flow	20,160	gal/day	1 WDF = Wastewater Design Flow	20,160	gal/day
2 CF = Commercial/STP Flow	27,851,544	liters/yr	2 WDF = Wastewater Design Flow	27,851,544	liters/yr
3 N = Nitrogen in Commercial	35.00	mg/l	3 N = Nitrogen in Water Supply	1.00	mg/l
4 N(S) = CF x N	974,804,040	milligrams	4 N(WW) = WDF x N	27,851,544	milligrams
5 N(S) = Sanitary Nitrogen	2149.44	lbs	5 N(WW) = Wastewater Nitrogen	61.41	lbs

E Fertilizer Nitrogen 1			F Fertilizer Nitrogen 2		
1 A = Area of Land Fertilized 1	95,832	sq ft	1 A = Area of Land Fertilized 2	0	sq ft
2 AR = Application Rate	2.00	lbs/1000 sf	2 AR = Application Rate	0.00	lbs/1000 sf
3 LR = Leaching Rate	14	percent	3 LR = Leaching Rate	0	percent
4 N(F1) = A x AR x LR	26.83	lbs	4 N(F2) = A x AR x LR	0.00	lbs
5 N(F1) = Fertilizer Nitrogen	26.83	lbs	5 N(F2) = Fertilizer Nitrogen	0.00	lbs

G Precipitation Nitrogen			H Irrigation Nitrogen		
1 R(n) = Natural Recharge (feet)	2.18	feet	1 R = Irrigation Recharge (inches)	2.49	inches
2 A = Area of Site (sq ft)	1,463,616	sq ft	2 R = Irrigation Rate (feet)	0.21	feet
3 R(N) = R(n) x A	3,186,770	cu ft	3 A = Area of Land Irrigated	95,832	sq ft
4 R(N) = Natural Recharge (liters)	90,249,319	liters	4 R(I) = R(irr) x A	19,913	cu ft
5 N = Nitrogen in Precipitation	1.00	mg/l	5 R(I) = Site Precipitation (liters)	563,950	liters
6 LR = Leaching Rate	15	percent	6 N = Nitrogen in Water Supply	1.00	mg/l
7 N(ppt) = P(S) x N x LR	902,493	milligrams	7 LR = Leaching Rate	15	percent
8 N(ppt) = Precipitation Nitrogen	1.99	lbs	8 N(irr) = R(I) x N x LR	84,593	milligrams
			9 N(irr) = Irrigation Nitrogen	0.19	lbs

Total Site Nitrogen		
N=	N(S) + N(P) + N(WW) + N(F1) + N(F2) + N(ppt) + N(irr)	
N=	2239.87	lbs

SIMULATION OF NITROGEN IN RECHARGE (SONIR)

NELSON, POPE & VOORHIS, LLC MICROCOMPUTER MODEL

NAME OF PROJECT

Five Towns College

Alternative 1

FINAL COMPUTATIONS

SHEET 4

<i>A</i>	<i>Nitrogen in Recharge</i>	<i>Value</i>	<i>Units</i>
1	N = Total Nitrogen (lbs)	2239.87	lbs
2	N = Total Nitrogen (milligrams)	1,016,898,731	milligrams
3	R(T) = Total Recharge (inches)	34.36	inches
4	R(T) = Total Recharge (feet)	2.86	feet
5	A = Area of Site	1,463,616	sq ft
6	R = R(T) x A	4,190,501	cu ft
7	R = Site Recharge Volume	118,674,997	liters
9	NR = N/R	8.57	mg/l

FINAL CONCENTRATION OF
NITROGEN IN RECHARGE

8.57

<i>B</i>	<i>Site Recharge Summary</i>	<i>Value</i>	<i>Units</i>
1	R(T) = Total Site Recharge	34.36	inches/yr
2	R = Site Recharge Volume	4,190,501	cu ft/yr
3	R = Site Recharge Volume	31,347,129	gal/yr
4	R = Site Recharge Volume	31.35	MG/yr

Conversions used in SONIR

Acres x 43,560 = Square Feet
Cubic Feet x 7.48052 = Gallons
Cubic Feet x 28.32 = Liters
Days x 365 = Years
Feet x 12 = Inches
Gallons x 0.1337 = Cubic Feet
Gallons x 3.785 = Liters
Grams / 1,000 = Milligrams
Grams x 0.002205 = Pounds
Milligrams / 1,000 = Grams

SIMULATION OF NITROGEN IN RECHARGE (SONIR)

NELSON, POPE & VOORHIS, LLC MICROCOMPUTER MODEL

NAME OF PROJECT

Five Towns College

DATA INPUT FIELD

Alternative 2

SHEET 1

A	Site Recharge Parameters	Value	Units
1	Area of Site	33.60	acres
2	Precipitation Rate	43.65	inches
3	Acreage of Lawn	12.25	acres
4	Fraction of Land in Lawn	0.365	fraction
5	Evapotranspiration from Lawn	21.40	inches
6	Runoff from Lawn	0.31	inches
7	Acreage of Impervious	10.60	acres
8	Fraction of Land Impervious	0.315	fraction
9	Evaporation from Impervious	4.28	inches
10	Runoff from Impervious	0.00	inches
11	Acreage of Unvegetated	0.00	acres
12	Fraction of Land Unvegetated	0.000	fraction
13	Evapotrans. from Unvegetated	24.20	inches
14	Runoff from Unvegetated	0.7	inches
15	Acreage of Water	0.00	acres
16	Fraction of Site in Water	0.000	fraction
17	Evaporation from Water	30.00	inches
18	Makeup Water (if applicable)	0.00	inches
19	Acreage of Natural Area	10.75	acres
20	Fraction of Land Natural	0.320	fraction
21	Evapotrans. from Natural Area	24.20	inches
22	Runoff from Natural Area	0.31	inches
23	Acreage of Other Area	0.00	acres
24	Fraction of Land Other Area	0.000	fraction
25	Evapotrans. from Other Area	0.00	inches
26	Runoff from Other Area	0.00	inches
27	Acreage of Land Irrigated	1.99	acres
28	Fraction of Land Irrigated	0.059	fraction
29	Irrigation Rate	5.50	inches
30	Number of Dwellings	0	units
31	Water Use per Dwelling	0	gal/day
32	Wastewater Design Flow	20,150	gal/day
33	Commercial /STP Design Flow	0	gal/day

B	Nitrogen Budget Parameters	Value	Units
1	Persons per Dwelling	0.00	persons
2	Nitrogen per Person per Year	0.0	lbs
3	Sanitary Nitrogen Leaching Rate	0	percent
4	Area of Land Fertilized 1	1.99	acres
5	Fertilizer Application Rate 1	2.00	lbs/1000 sq ft
6	Fertilizer Nitrogen Leaching Rate 1	14	percent
7	Area of Land Fertilized 2	0.00	acres
8	Fertilizer Application Rate 2	0.00	lbs/1000 sq ft
9	Fertilizer Nitrogen Leaching Rate 2	0	percent
10	Pet Waste Application Rate	0.00	lbs/pet
11	Pet Waste Nitrogen Leaching Rate	0	percent
12	Area of Land Irrigated	1.99	acres
13	Irrigation Rate	5.50	inches
14	Irrigation Nitrogen Leaching Rate	15	percent
15	Nitrogen in Precipitation	1.00	mg/l
16	Precipitation Nitrogen Leaching Rate	15	percent
17	Nitrogen in Water Supply	1.00	mg/l
18	Nitrogen in Commercial/STP Flow	35.00	mg/l

C Comments

- 1) Please refer to user manual for data input instructions.

SIMULATION OF NITROGEN IN RECHARGE (SONIR)

NELSON, POPE & VOORHIS, LLC MICROCOMPUTER MODEL

SITE RECHARGE COMPUTATIONS

Alternative 2

SHEET 2

A Lawn Area Recharge		
1 A = Fraction of Land in Lawn	0.365	fraction
2 P = Precipitation Rate	43.65	inches
3 E = Evapotranspiration Rate	21.40	inches
4 Q = Runoff Rate	0.31	inches
5 $R(I) = P - (E + Q)$	21.94	inches
6 $R(L) = R(I) \times A$	8.00	inches

B Impervious Area Recharge		
1 A = Fraction of Land in Impervious	0.315	fraction
2 P = Precipitation Rate	43.65	inches
3 E = Evapotranspiration Rate	4.28	inches
4 Q = Runoff Rate	0.00	inches
5 $R(i) = P - (E + Q)$	39.37	inches
6 $R(I) = R(i) \times A$	12.42	inches

C Unvegetated Area Recharge		
1 A = Fraction of Land Unveg.	0.000	fraction
2 P = Precipitation Rate	43.65	inches
3 E = Evapotranspiration Rate	0.70	inches
4 Q = Runoff Rate	1.00	inches
5 $R(u) = P - (E + Q)$	41.95	inches
6 $R(U) = R(u) \times A$	0.00	inches

D Water Area Loss		
1 A = Fraction of Site in Water	0.000	fraction
2 P = Precipitation Rate	43.65	inches
3 E = Evaporation Rate	30.00	inches
4 Q = Runoff Rate	0.00	inches
5 M = Makeup Water	0.00	inches
6 $R(w) = \{P - (E + Q)\} - M$	13.65	inches
7 $R(W) = R(w) \times A$	0.00	inches

E Natural Area Recharge		
1 A = Fraction of Land in Natural	0.320	fraction
2 P = Precipitation Rate	43.65	inches
3 E = Evapotranspiration Rate	24.20	inches
4 Q = Runoff Rate	0.31	inches
5 $R(n) = P - (E + Q)$	19.14	inches
6 $R(N) = R(n) \times A$	6.12	inches

F Other Area Recharge		
1 A = Fraction of Land in Other	0.000	fraction
2 P = Precipitation Rate	43.65	inches
3 E = Evapotranspiration Rate	0.00	inches
4 Q = Runoff Rate	0.00	inches
5 $R(o) = P - (E + Q)$	43.65	inches
6 $R(O) = R(o) \times A$	0.00	inches

G Irrigation Recharge		
1 A = Fraction of Land Irrigated	0.059	fraction
2 I = Irrigation Rate	5.50	inches
3 E = Evapotranspiration Rate	2.70	inches
4 Q = Runoff Rate	0.31	inches
5 $R(irr) = I - (E + Q)$	2.49	inches
6 $R(IRR) = R(irr) \times A$	0.15	inches

H Wastewater Recharge		
1 WDF = Wastewater Design Flow	20,150	gal/day
2 WDF = Wastewater Design Flow	983,330.08	cu ft/yr
3 A = Area of Site	1,463,616	sq ft
4 $R(w) = WDF/A$	0.67	feet
5 $R(WW) = Wastewater Recharge$	8.06	inches

Total Site Recharge		
$R(T) =$	$R(L) + R(I) + R(U) + R(W) + R(N) + R(O) + R(IRR) + R(WW)$	
R(T) =	34.75	inches

SIMULATION OF NITROGEN IN RECHARGE (SONIR)

NELSON, POPE & VOORHIS, LLC MICROCOMPUTER MODEL

SITE NITROGEN BUDGET

Alternative 1

SHEET 3

<i>A</i>	<i>Sanitary Nitrogen-Residential</i>	<i>Value</i>	<i>Units</i>	<i>B</i>	<i>Pet Waste Nitrogen</i>	<i>Value</i>	<i>Units</i>
1	Number of Dwellings	0	units	1	AR = Application Rate	0.00	lbs/pet
2	Persons per Dwelling	0.00	capita	2	Human Population	0	capita
3	P = Population	0.00	capita	3	Pets = 17 percent of capita	0	pets
4	N = Nitrogen per person	0	lbs	4	N(p) = AR x pets	0.00	lbs
5	LR = Leaching Rate	0	percent	5	LR = Leaching Rate	0	percent
6	N(S) = P x N x LR	0.00	lbs	6	N(P) = N(p) x LR	0.00	lbs
7	N(S) = Sanitary Nitrogen	0.00	lbs	7	N(P) = Pet Waste Nitrogen	0.00	lbs

<i>C</i>	<i>Sanitary Nitrogen (Commercial/STP)</i>			<i>D</i>	<i>Water Supply Nitrogen</i>		
1	CF = Commercial/STP Flow	20,150	gal/day	1	WDF = Wastewater Design Flow	20,150	gal/day
2	CF = Commercial/STP Flow	27,837,729	liters/yr	2	WDF = Wastewater Design Flow	27,837,729	liters/yr
3	N = Nitrogen in Commercial	35.00	mg/l	3	N = Nitrogen in Water Supply	1.00	mg/l
4	N(S) = CF x N	974,320,506	milligrams	4	N(WW) = WDF x N	27,837,729	milligrams
5	N(S) = Sanitary Nitrogen	2148.38	lbs	5	N(WW) = Wastewater Nitrogen	61.38	lbs

<i>E</i>	<i>Fertilizer Nitrogen 1</i>			<i>F</i>	<i>Fertilizer Nitrogen 2</i>		
1	A = Area of Land Fertilized 1	86,684	sq ft	1	A = Area of Land Fertilized 2	0	sq ft
2	AR = Application Rate	2.00	lbs/1000 sf	2	AR = Application Rate	0.00	lbs/1000 sf
3	LR = Leaching Rate	14	percent	3	LR = Leaching Rate	0	percent
4	N(F1) = A x AR x LR	24.27	lbs	4	N(F2) = A x AR x LR	0.00	lbs
5	N(F1) = Fertilizer Nitrogen	24.27	lbs	5	N(F2) = Fertilizer Nitrogen	0.00	lbs

<i>G</i>	<i>Precipitation Nitrogen</i>			<i>H</i>	<i>Irrigation Nitrogen</i>		
1	R(n) = Natural Recharge (feet)	2.21	feet	1	R = Irrigation Recharge (inches)	2.49	inches
2	A = Area of Site (sq ft)	1,463,616	sq ft	2	R = Irrigation Rate (feet)	0.21	feet
3	R(N) = R(n) x A	3,237,386	cu ft	3	A = Area of Land Irrigated	86,684	sq ft
4	R(N) = Natural Recharge (liters)	91,682,785	liters	4	R(I) = R(irr) x A	18,013	cu ft
5	N = Nitrogen in Precipitation	1.00	mg/l	5	R(I) = Site Precipitation (liters)	510,119	liters
6	LR = Leaching Rate	15	percent	6	N = Nitrogen in Water Supply	1.00	mg/l
7	N(ppt) = P(S) x N x LR	916,828	milligrams	7	LR = Leaching Rate	15	percent
8	N(ppt) = Precipitation Nitrogen	2.02	lbs	8	N(irr) = R(I) x N x LR	76,518	milligrams
				9	N(irr) = Irrigation Nitrogen	0.17	lbs

Total Site Nitrogen		
N=	N(S) + N(P) + N(WW) + N(F1) + N(F2) + N(ppt) + N(irr)	
N=	2236.22	lbs

SIMULATION OF NITROGEN IN RECHARGE (SONIR)

NELSON, POPE & VOORHIS, LLC MICROCOMPUTER MODEL

NAME OF PROJECT

Five Towns College

Alternative 2

FINAL COMPUTATIONS

SHEET 4

A	Nitrogen in Recharge	Value	Units
1	N = Total Nitrogen (lbs)	2236.22	lbs
2	N = Total Nitrogen (milligrams)	1,015,244,274	milligrams
3	R(T) = Total Recharge (inches)	34.75	inches
4	R(T) = Total Recharge (feet)	2.90	feet
5	A = Area of Site	1,463,616	sq ft
6	R = R(T) x A	4,238,729	cu ft
7	R = Site Recharge Volume	120,040,811	liters
9	NR = N/R	8.46	mg/l

FINAL CONCENTRATION OF
NITROGEN IN RECHARGE

8.46

B	Site Recharge Summary	Value	Units
1	R(T) = Total Site Recharge	34.75	inches/yr
2	R = Site Recharge Volume	4,238,729	cu ft/yr
3	R = Site Recharge Volume	31,707,899	gal/yr
4	R = Site Recharge Volume	31.71	MG/yr

Conversions used in SONIR

Acres x 43,560 = Square Feet
Cubic Feet x 7.48052 = Gallons
Cubic Feet x 28.32 = Liters
Days x 365 = Years
Feet x 12 = Inches
Gallons x 0.1337 = Cubic Feet
Gallons x 3.785 = Liters
Grams / 1,000 = Milligrams
Grams x 0.002205 = Pounds
Milligrams / 1,000 = Grams

SIMULATION OF NITROGEN IN RECHARGE (SONIR)

NELSON, POPE & VOORHIS, LLC MICROCOMPUTER MODEL

NAME OF PROJECT

Five Towns College

DATA INPUT FIELD

Alternative 3

SHEET 1

A	Site Recharge Parameters	Value	Units
1	Area of Site	33.60	acres
2	Precipitation Rate	43.65	inches
3	Acreage of Lawn	12.63	acres
4	Fraction of Land in Lawn	0.376	fraction
5	Evapotranspiration from Lawn	21.40	inches
6	Runoff from Lawn	0.31	inches
7	Acreage of Impervious	10.22	acres
8	Fraction of Land Impervious	0.304	fraction
9	Evaporation from Impervious	4.28	inches
10	Runoff from Impervious	0.00	inches
11	Acreage of Unvegetated	0.00	acres
12	Fraction of Land Unvegetated	0.000	fraction
13	Evapotrans. from Unvegetated	24.20	inches
14	Runoff from Unvegetated	0.7	inches
15	Acreage of Water	0.00	acres
16	Fraction of Site in Water	0.000	fraction
17	Evaporation from Water	30.00	inches
18	Makeup Water (if applicable)	0.00	inches
19	Acreage of Natural Area	10.75	acres
20	Fraction of Land Natural	0.320	fraction
21	Evapotrans. from Natural Area	24.20	inches
22	Runoff from Natural Area	0.31	inches
23	Acreage of Other Area	0.00	acres
24	Fraction of Land Other Area	0.000	fraction
25	Evapotrans. from Other Area	0.00	inches
26	Runoff from Other Area	0.00	inches
27	Acreage of Land Irrigated	1.99	acres
28	Fraction of Land Irrigated	0.059	fraction
29	Irrigation Rate	5.50	inches
30	Number of Dwellings	0	units
31	Water Use per Dwelling	0	gal/day
32	Wastewater Design Flow	20,150	gal/day
33	Commercial /STP Design Flow	0	gal/day

B	Nitrogen Budget Parameters	Value	Units
1	Persons per Dwelling	0.00	persons
2	Nitrogen per Person per Year	0.0	lbs
3	Sanitary Nitrogen Leaching Rate	0	percent
4	Area of Land Fertilized 1	1.99	acres
5	Fertilizer Application Rate 1	2.00	lbs/1000 sq ft
6	Fertilizer Nitrogen Leaching Rate 1	14	percent
7	Area of Land Fertilized 2	0.00	acres
8	Fertilizer Application Rate 2	0.00	lbs/1000 sq ft
9	Fertilizer Nitrogen Leaching Rate 2	0	percent
10	Pet Waste Application Rate	0.00	lbs/pet
11	Pet Waste Nitrogen Leaching Rate	0	percent
12	Area of Land Irrigated	1.99	acres
13	Irrigation Rate	5.50	inches
14	Irrigation Nitrogen Leaching Rate	15	percent
15	Nitrogen in Precipitation	1.00	mg/l
16	Precipitation Nitrogen Leaching Rate	15	percent
17	Nitrogen in Water Supply	1.00	mg/l
18	Nitrogen in Commercial/STP Flow	35.00	mg/l

C	Comments
1)	Please refer to user manual for data input instructions.

SIMULATION OF NITROGEN IN RECHARGE (SONIR)

NELSON, POPE & VOORHIS, LLC MICROCOMPUTER MODEL

SITE RECHARGE COMPUTATIONS

Alternative 3

SHEET 2

A Lawn Area Recharge			B Impervious Area Recharge		
	<i>Value</i>	<i>Units</i>		<i>Value</i>	<i>Units</i>
1 A = Fraction of Land in Lawn	0.376	fraction	1 A = Fraction of Land in Impervious	0.304	fraction
2 P = Precipitation Rate	43.65	inches	2 P = Precipitation Rate	43.65	inches
3 E = Evapotranspiration Rate	21.40	inches	3 E = Evapotranspiration Rate	4.28	inches
4 Q = Runoff Rate	0.31	inches	4 Q = Runoff Rate	0.00	inches
5 $R(l) = P - (E + Q)$	21.94	inches	5 $R(i) = P - (E + Q)$	39.37	inches
6 $R(L) = R(l) \times A$	8.25	inches	6 $R(I) = R(i) \times A$	11.98	inches

C Unvegetated Area Recharge			D Water Area Loss		
	<i>Value</i>	<i>Units</i>		<i>Value</i>	<i>Units</i>
1 A = Fraction of Land Unveg.	0.000	fraction	1 A = Fraction of Site in Water	0.000	fraction
2 P = Precipitation Rate	43.65	inches	2 P = Precipitation Rate	43.65	inches
3 E = Evapotranspiration Rate	0.70	inches	3 E = Evaporation Rate	30.00	inches
4 Q = Runoff Rate	1.00	inches	4 Q = Runoff Rate	0.00	inches
5 $R(u) = P - (E + Q)$	41.95	inches	5 M = Makeup Water	0.00	inches
6 $R(U) = R(u) \times A$	0.00	inches	6 $R(w) = \{P - (E + Q)\} - M$	13.65	inches
			7 $R(W) = R(w) \times A$	0.00	inches

E Natural Area Recharge			F Other Area Recharge		
	<i>Value</i>	<i>Units</i>		<i>Value</i>	<i>Units</i>
1 A = Fraction of Land in Natural	0.320	fraction	1 A = Fraction of Land in Other	0.000	fraction
2 P = Precipitation Rate	43.65	inches	2 P = Precipitation Rate	43.65	inches
3 E = Evapotranspiration Rate	24.20	inches	3 E = Evapotranspiration Rate	0.00	inches
4 Q = Runoff Rate	0.31	inches	4 Q = Runoff Rate	0.00	inches
5 $R(n) = P - (E + Q)$	19.14	inches	5 $R(o) = P - (E + Q)$	43.65	inches
6 $R(N) = R(n) \times A$	6.12	inches	6 $R(O) = R(o) \times A$	0.00	inches

G Irrigation Recharge			H Wastewater Recharge		
	<i>Value</i>	<i>Units</i>		<i>Value</i>	<i>Units</i>
1 A = Fraction of Land Irrigated	0.059	fraction	1 WDF = Wastewater Design Flow	20,150	gal/day
2 I = Irrigation Rate	5.50	inches	2 WDF = Wastewater Design Flow	983,330.08	cu ft/yr
3 E = Evaptranspiration Rate	2.70	inches	3 A = Area of Site	1,463,616	sq ft
4 Q = Runoff Rate	0.31	inches	4 $R(w) = WDF/A$	0.67	feet
5 $R(irr) = I - (E + Q)$	2.49	inches	5 $R(WW) = \text{Wastewater Recharge}$	8.06	inches
6 $R(IRR) = R(irr) \times A$	0.15	inches			

Total Site Recharge		
$R(T) =$	$R(L) + R(I) + R(U) + R(W) + R(N) + R(O) + R(IRR) + R(WW)$	
$R(T) =$	34.56	inches

SIMULATION OF NITROGEN IN RECHARGE (SONIR)

NELSON, POPE & VOORHIS, LLC MICROCOMPUTER MODEL

SITE NITROGEN BUDGET

Alternative 3

SHEET 3

A Sanitary Nitrogen-Residential			B Pet Waste Nitrogen		
	<i>Value</i>	<i>Units</i>		<i>Value</i>	<i>Units</i>
1 Number of Dwellings	0	units	1 AR = Application Rate	0.00	lbs/pet
2 Persons per Dwelling	0.00	capita	2 Human Population	0	capita
3 P = Population	0.00	capita	3 Pets = 17 percent of capita	0	pets
4 N = Nitrogen per person	0	lbs	4 N(p) = AR x pets	0.00	lbs
5 LR = Leaching Rate	0	percent	5 LR = Leaching Rate	0	percent
6 N(S) = P x N x LR	0.00	lbs	6 N(P) = N(p) x LR	0.00	lbs
7 N(S) = Sanitary Nitrogen	0.00	lbs	7 N(P) = Pet Waste Nitrogen	0.00	lbs

C Sanitary Nitrogen (Commercial/STP)			D Water Supply Nitrogen		
1 CF = Commercial/STP Flow	20,150	gal/day	1 WDF = Wastewater Design Flow	20,150	gal/day
2 CF = Commercial/STP Flow	27,837,729	liters/yr	2 WDF = Wastewater Design Flow	27,837,729	liters/yr
3 N = Nitrogen in Commercial	35.00	mg/l	3 N = Nitrogen in Water Supply	1.00	mg/l
4 N(S) = CF x N	974,320,506	milligrams	4 N(WW) = WDF x N	27,837,729	milligrams
5 N(S) = Sanitary Nitrogen	2148.38	lbs	5 N(WW) = Wastewater Nitrogen	61.38	lbs

E Fertilizer Nitrogen 1			F Fertilizer Nitrogen 2		
1 A = Area of Land Fertilized 1	86,684	sq ft	1 A = Area of Land Fertilized 2	0	sq ft
2 AR = Application Rate	2.00	lbs/1000 sf	2 AR = Application Rate	0.00	lbs/1000 sf
3 LR = Leaching Rate	14	percent	3 LR = Leaching Rate	0	percent
4 N(F1) = A x AR x LR	24.27	lbs	4 N(F2) = A x AR x LR	0.00	lbs
5 N(F1) = Fertilizer Nitrogen	24.27	lbs	5 N(F2) = Fertilizer Nitrogen	0.00	lbs

G Precipitation Nitrogen			H Irrigation Nitrogen		
1 R(n) = Natural Recharge (feet)	2.20	feet	1 R = Irrigation Recharge (inches)	2.49	inches
2 A = Area of Site (sq ft)	1,463,616	sq ft	2 R = Irrigation Rate (feet)	0.21	feet
3 R(N) = R(n) x A	3,213,344	cu ft	3 A = Area of Land Irrigated	86,684	sq ft
4 R(N) = Natural Recharge (liters)	91,001,888	liters	4 R(I) = R(irr) x A	18,013	cu ft
5 N = Nitrogen in Precipitation	1.00	mg/l	5 R(I) = Site Precipitation (liters)	510,119	liters
6 LR = Leaching Rate	15	percent	6 N = Nitrogen in Water Supply	1.00	mg/l
7 N(ppt) = P(S) x N x LR	910,019	milligrams	7 LR = Leaching Rate	15	percent
8 N(ppt) = Precipitation Nitrogen	2.01	lbs	8 N(irr) = R(I) x N x LR	76,518	milligrams
			9 N(irr) = Irrigation Nitrogen	0.17	lbs

Total Site Nitrogen		
N=	N(S) + N(P) + N(WW) + N(F1) + N(F2) + N(ppt) + N(irr)	
N=	2236.21	lbs

SIMULATION OF NITROGEN IN RECHARGE (SONIR)

NELSON, POPE & VOORHIS, LLC MICROCOMPUTER MODEL

NAME OF PROJECT

Five Towns College

Alternative 3

FINAL COMPUTATIONS

SHEET 4

<i>A</i>	<i>Nitrogen in Recharge</i>	<i>Value</i>	<i>Units</i>
1	N = Total Nitrogen (lbs)	2236.21	lbs
2	N = Total Nitrogen (milligrams)	1,015,237,458	milligrams
3	R(T) = Total Recharge (inches)	34.56	inches
4	R(T) = Total Recharge (feet)	2.88	feet
5	A = Area of Site	1,463,616	sq ft
6	R = R(T) x A	4,214,686	cu ft
7	R = Site Recharge Volume	119,359,915	liters
9	NR = N/R	8.51	mg/l

FINAL CONCENTRATION OF
NITROGEN IN RECHARGE

8.51

<i>B</i>	<i>Site Recharge Summary</i>	<i>Value</i>	<i>Units</i>
1	R(T) = Total Site Recharge	34.56	inches/yr
2	R = Site Recharge Volume	4,214,686	cu ft/yr
3	R = Site Recharge Volume	31,528,045	gal/yr
4	R = Site Recharge Volume	31.53	MG/yr

Conversions used in SONIR

Acres x 43,560 = Square Feet
Cubic Feet x 7.48052 = Gallons
Cubic Feet x 28.32 = Liters
Days x 365 = Years
Feet x 12 = Inches
Gallons x 0.1337 = Cubic Feet
Gallons x 3.785 = Liters
Grams / 1,000 = Milligrams
Grams x 0.002205 = Pounds
Milligrams / 1,000 = Grams

APPENDIX D

CULTURAL RESOURCES ANALYSES

Archaeological Services, Inc.



NELSON, POPE & VOORHIS, LLC
ENVIRONMENTAL • PLANNING • CONSULTING

**Appendix D-1
Phase IA Study**

12-22-99



NELSON, POPE & VOORHIS, LLC
ENVIRONMENTAL • PLANNING • CONSULTING

CULTURAL RESOURCE ASSESSMENT

PHASE IA STUDY

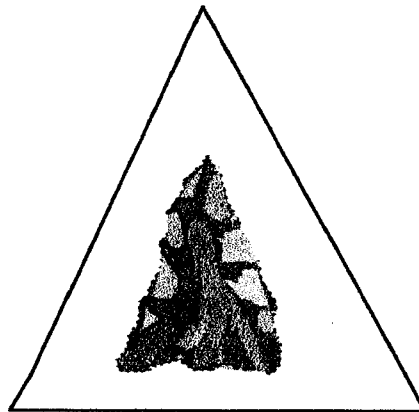
LITERATURE SEARCH, FIELD INSPECTION AND SENSITIVITY ASSESSMENT

FIVE TOWNS COLLEGE

EXPANSION SITE STUDY

HUNTINGTON TOWNSHIP, SUFFOLK COUNTY

DIX HILLS, NEW YORK



ASI

ARCHAEOLOGICAL SERVICES INC.

P. O. BOX 1522, ROCKY POINT, NEW YORK

and

11 WOODTHRUSH COURT

EXECUTIVE CIRCLE

MILLER PLACE, NEW YORK 11764

FIVE TOWNS COLLEGE
Dix Hills, New York

Literature Search and Sensitivity Assessment, Phase IA

Date of initiation of this file: November 18, 1999

Date of completion:

12-22-99

Revised and amended: 12-15-99

Author and principal investigator: Robert J. Kalin

Endorsement: _____

Date: _____

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EXECUTIVE SUMMARY

The site planned for expansion within the Five Towns College campus in Dix Hills, Huntington Town, Suffolk County, New York has been evaluated for cultural sensitivity. The general area has been occupied since early in the present century when the Nostran family settled on property adjacent to the site now planned for development. The study area was cleared for pasture early in the 19th century, later it was permitted to reforest and has remained woodland up to the present time. In mid 20th century adjacent portions of the parcel were developed as a school known as the Burr Lane Junior High School. The site was converted into to a Junior College in the last decade. This report reveals evidences of past use of the site and presence of prehistoric use and occupation sites within a mile. A Stage IB field reconnaissance survey is required prior to disturbance by construction.

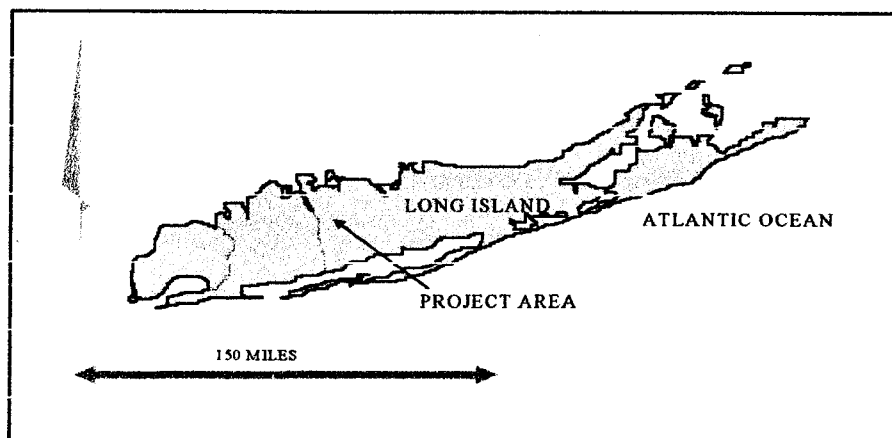


Figure 1. Map showing general location of the study area.

CONTENTS

EXECUTIVE SUMMARY.....	3
CONTENTS.....	4
INTRODUCTION.....	5
OBJECTIVES.....	5
DESCRIPTION OF STUDY AREA.....	6
DESCRIPTION OF PROPOSAL.....	6
ENVIRONMENTAL INFORMATION.....	7
SOILS.....	7
DRAINAGE.....	7
PROXIMITY TO SURFACE WATER.....	7
VEGETATION.....	7
FOREST ZONE.....	7
MAN-MADE FEATURES.....	8
PREVIOUS STUDIES.....	8
DOCUMENTARY RESEARCH	9
MAP ANALYSIS.....	11
CHRONOLOGY OF SITE.....	19
CONCLUSIONS.....	20
RECOMMENDATIONS.....	20
RATIONALE.....	20
BIBLIOGRAPHY.....	21
PHOTOGRAPHIC STUDY.....	22

INTRODUCTION

The following report is the result of a Phase IA, cultural resources assessment study of the Five Towns College on Burrs Lane in Dix Hills, the proposed site of several buildings and parking fields to serve an expanding student body. The project area is located on the west side of Burr Lane south of Half Hollow Road in the Town of Huntington, Suffolk County, New York. See below.

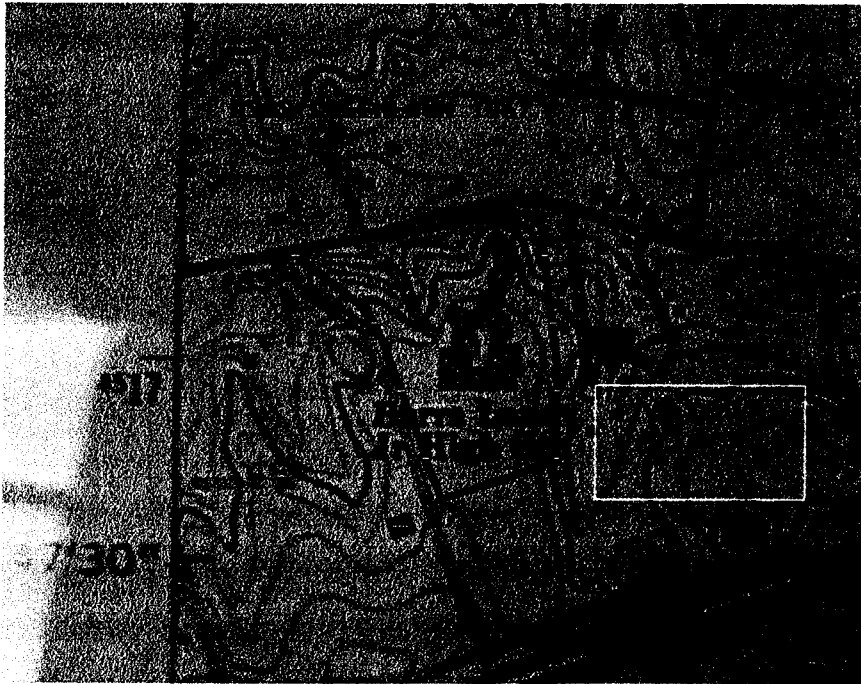


Figure 2. Section of Survey of Sunrise Development at Dix Hills. After Nelson and Pope Survey

OBJECTIVES

The primary objective of this study is to identify all cultural resources within the study zone, which may be affected by the project. Archaeological and prehistoric sites, man-made features, sacred areas, locations of former structures and structure sites, as well as standing structures that are more than fifty years old are to be identified by means of documentary research, oral interviews and a visual inspection of the site.

DESCRIPTION OF STUDY AREA

Five Towns College occupies a wooded parcel on the south side of Half Hollow Road west of Burrs Lane in the Township of Huntington, Suffolk County. The College has proposed a construction plan for a Living Learning Center that will occupy the northeast corner of the parcel. The site is presently occupied by an elongate, one-storey brick and steel structure used for instructional purposes. Parking for staff and students occupies a cleared area to the south of the College structure which is partially paved and partly surfaced with gravel. This study is confined to those areas that are to be impacted by the proposed construction of four student Living-Learning Residences, a future library and library court, as well as improvements to existing gravel surfaced parking lots. The parcel is mostly cleared of forest except for areas in the north and northeast that are wooded. The property, occupied by the former Burr Lane Junior High School and its parking lot, slopes steeply from an elevation of approximately 210 feet above mean sea level (msl) to Half Hollow Road at an elevation of approximately 155 feet (above msl) which borders the parcel on the north.

DESCRIPTION OF THE PROPOSAL

The proposal calls for the construction of four student residence buildings located in Area A, a proposed library addition in Area B, and improvement of gravel surfaced parking lots located in Area C (See below, Figure 3).

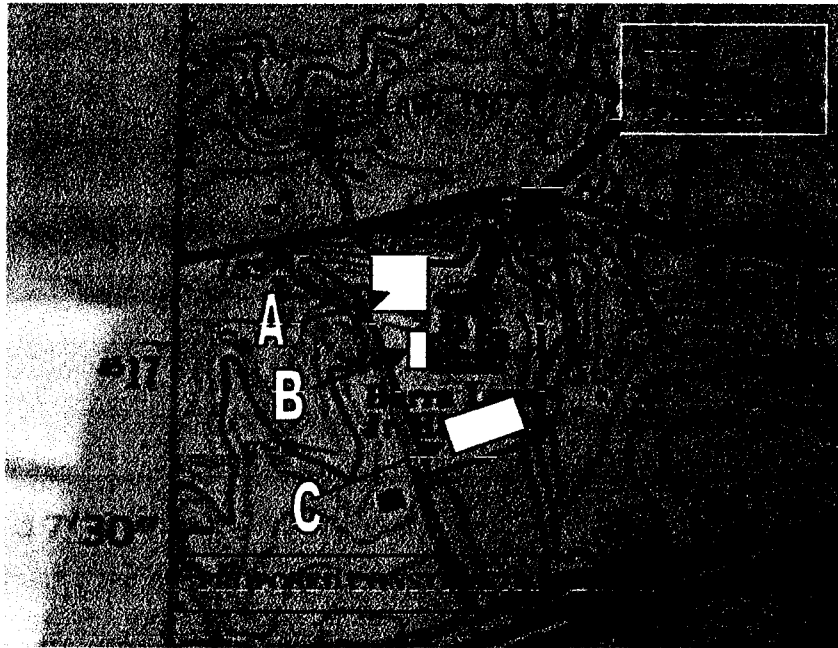


Figure 3. Proposed construction zones, after Nelson and Pope 10/14/98 construction plan.

ENVIRONMENTAL INFORMATION

TOPOGRAPHY

The property rises approximately 55 feet above the level of Half Hollow Road at 155 feet (above msl) to the site of Five Towns College which is situated on a gently north sloping plateau at approximately 210 feet elevation. A relatively steep escarpment with an associated gully surface drainage system overlooks Half Hollow Road. This gully system is the proposed site of the Living Learning Center.

SOILS

The solum observed in exposed areas and road or footpath cuts at the site is a poorly sorted medium to coarse sand and gravelly sand soil, which overlies glacially derived deposits of coarse sand and gravel. The Suffolk County Soil Survey (map 74) indicates that the soils of the site belong to the Carver-Plymouth and Montauk soils series. The site is mapped as Carver-Plymouth E (CpE), Montauk Silt Loam (MkC and MkB) and MIB soils which are graded or altered Montauk soils. This latter soil phase is associated with the buildings and parking lots of the Five Towns College site. CpE soils have been associated with archaeological sites on Long Island.

DRAINAGE

The parcel is well drained. The site of a recharge basin is noted on the soil survey map. See Map 74, Suffolk County Soil Survey.

PROXIMITY TO SURFACE WATER

The parcel has no permanent water source. Parts of the study area overlook the site of a (former) fresh water creek which coursed along the north side of Half Hollow Road (See USGS Greenlawn Quadrangle 7.5 min series 1954) approximately 200 feet from the north property boundary. This natural feature has been all but obliterated by development and road expansion. At the time of the survey, scattered patches of *Phragmites* sp. were observed on the north side of Half Hollow Road along the former drainage of this body of water. The source of fresh water, access to a roadway and the pleasant variation of topography of the parcel all probably contributed to its historic use and development.

VEGETATION

The site has a significant stand of mature pine-oak forest in the northeastern corner and along the north boundary of the parcel. Most of the southern area was cleared and leveled and is now built upon, is parking lot, or maintained lawn.

FOREST ZONE

The original forest zone was probably Northeastern Oak-Pine Forest (See Kuchler 1970).

ALTERATIONS

In the north and northeast the parcel remains relatively unaltered and wooded. The remainder of the property has been largely cleared of its natural vegetation and mechanically leveled when being prepared for past construction. Comparisons of several editions of USGS maps indicate changes in topography due to construction of the Burr Junior High School. That of the eastern side of the school and the present parking lot appear to have been altered, probably by filling and leveling. From the building construction, soil was deposited to the east of the school, filling a low area there. In addition, the area of the future parking lot in the south end was leveled. Also at that time, a roadway was constructed which connected Half Hollow Road to the campus, coursing in a north-south direction. After the establishment of the Five Towns College campus, an additional roadway was constructed which is presently confluent with Burrs Lane. Today, this road is closed to traffic. Road construction resulted in filling and alterations along the margins of the roadways.

MAN-MADE FEATURES OBSERVED DURING THE FIELD INSPECTION

The study area (A) has a faint road trace, several tree removal pits and other indications of soil disturbance. This area has been used as a dump-site for soil and vegetation debris related to campus lawn and general maintenance. Parts of Area B have been leveled and its soil altered during the construction of the adjacent roadway. The remainder of Area B is unaltered woodland. Study area C has been altered by grading and has been covered by gravel, "blue stone" or asphalt.

PREVIOUS DOCUMENTARY STUDIES

There are no known previous cultural assessment studies of this property.

DOCUMENTARY RESEARCH

I. TEXTS

All major references were reviewed these included: W. Beauchamp (1900), A. C. Parker (1920), Ritchie (1969), Smith (1950), Ritchie and Funk (1973), and others.

II. REFERENCED MAPS:

1. Burr 1829
2. Colton 1836
3. US Coastal Survey 1836-1838
4. Chase 1858
5. Beers 1873
6. Hyde 1896
7. Colton 1901
8. Hyde 1906
9. USGS 1947
10. USGS 1954
11. USGS 1967

Note that not all evaluated and examined maps are reproduced in the report.

III. PREHISTORIC SITE FILES AND EARLY RESIDENCE SITES

A. Prehistoric

1. A. C. Parker (1920) reports a village site (Site 3) and a shell heap near Huntington (Site 4).

2. Gonzales and Rutch (1979) categorize the region of the subject property as an area of "low activity or insufficient data". (Gonzales and Rutch 1979:13).

3. Saxon (1973) reports the location, of an Archaic fluted-point site along the upper drainage of the Carlls River (Creek) in an area approximately five miles from the subject property, but in similar topographic circumstances.

4. Prehistoric sites, scattered finds of stone tools, arrowheads and other evidences are known to occur east of the site. The Wulforst Site located within a mile of the site was characterized as Late Archaic in age. The Half Hollow Tree Nursery Site, a prehistoric scatter of artifacts, is located within one mile of the study area.

Based on its location, topography, presence of a potable source of water, a relative lack of soil disturbances, as well as modest slopes and levels of erosion which provide a likelihood for the soils to preserve cultural evidence, ASI concludes that portions of the Five Towns College site has a higher than average probability of producing prehistoric evidences.

B. Historic

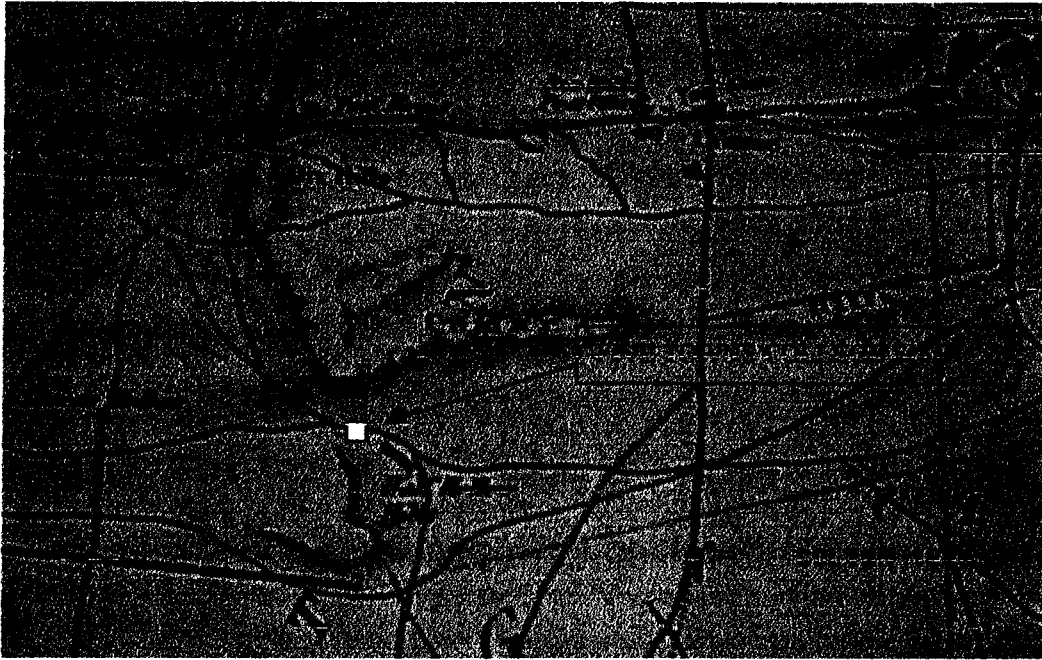
A review of the SR and NR Listings in the Town of Huntington have revealed a number of properties along the course of Waverly Avenue near the subject property that are listed. Enclosed find Building Inventory Forms for the following structures located adjacent to the study area.

1. Ketchum-Bayliss-Fust House (1837) Half Hollow Road
2. Bayliss -Sivelle House (1873) Half Hollow Road

MAP ANALYSIS

1. Colton 1836

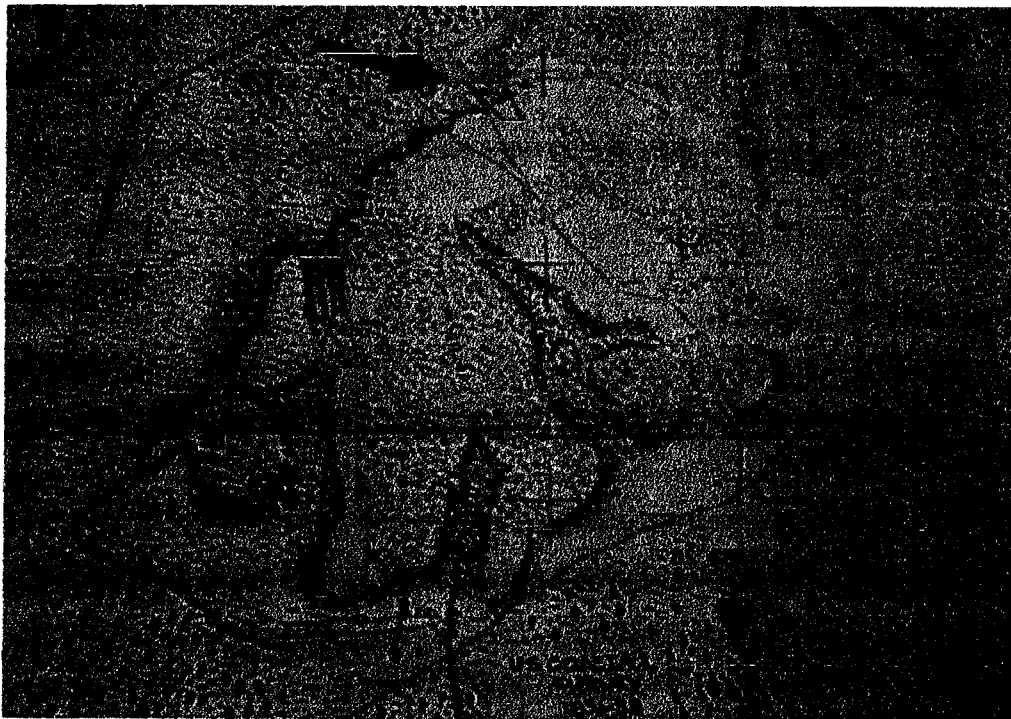
The Colton Map indicates the location of Dix Hills, Commack and Half Hollow Hills. The general topography of the area is clearly indicated. After the first third of the 19th century there are few indications of settlement in the vicinity of the subject property. See Map-Figure 1 below.



Map-Figure 1. Colton map of 1836.

2. U.S. Coastal Survey 1836-1838 A

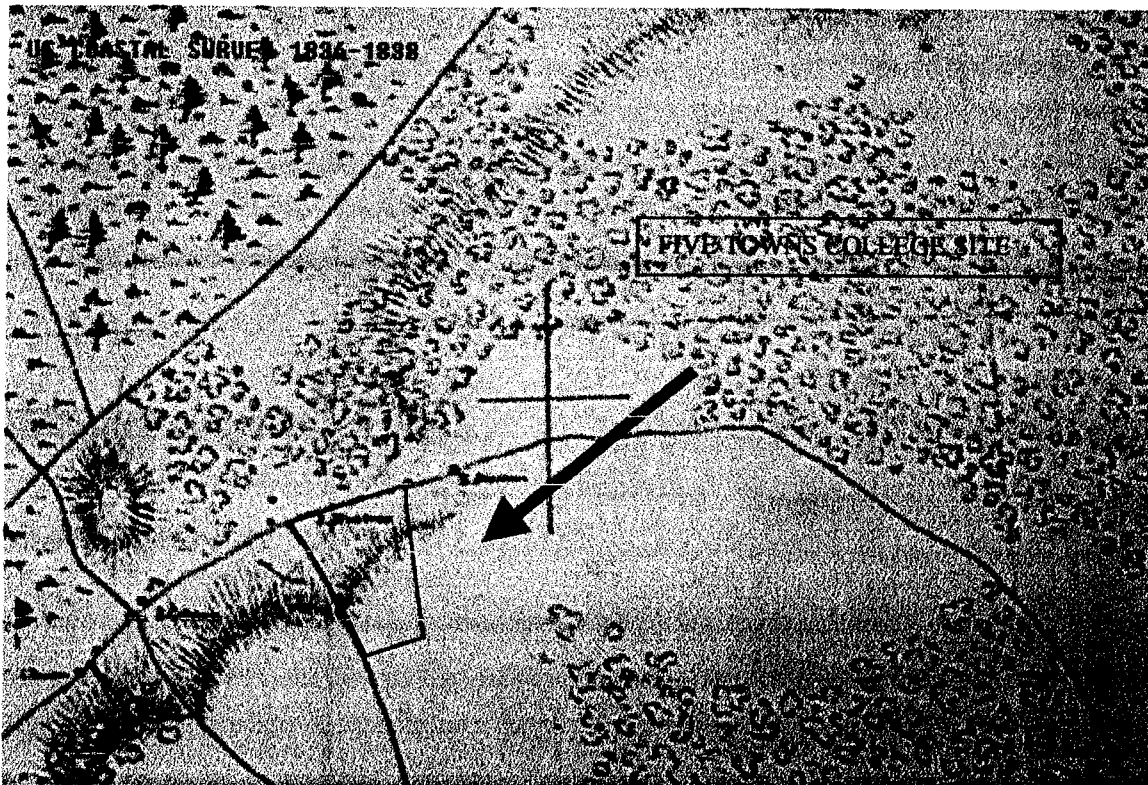
The US Coastal Survey of 1836-1838 reveals the topography and culture of the region late in the first half of the 19th century. The subject property is outlined and indicated by a bold arrow. The parcel is noted as situated on the north side of Half Hollow Hills east side of Burrs Lane at the intersection of Half Hollow Road. Aspects of the topography as they appear today are well figured. Noteworthy is the indication that the entire region of northern Half Hollow Hills was cleared of forest and probably devoted to field crops or pasture. At this date Five Towns College was a treeless pasture or crop-field. Noteworthy as well, is the appropriateness of the name "Half Hollow Hills" based on the nature of the topography of this glacially derived hilly region, which indeed appears to be formed in a half hollow pattern. See Map 2 below, Map-figure 2.



Map-Figure 2. US Coastal Survey Map 1836-1838.

3. U.S. Coastal Survey 1836-1838 B (Enlargement)

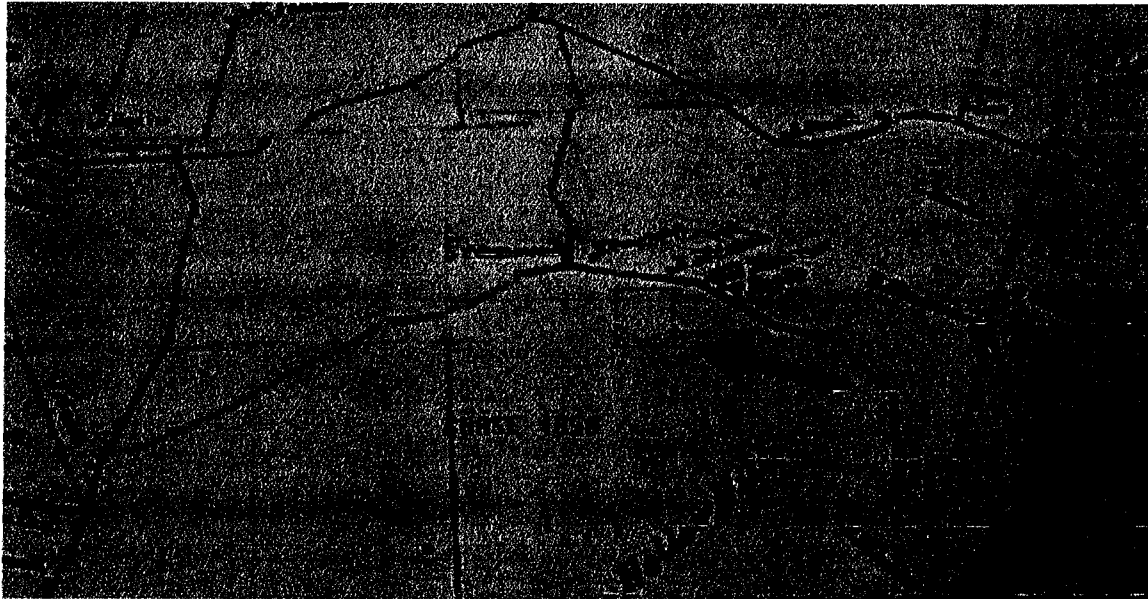
The US Coastal Survey of 1836-1838 reveals the topography and culture of the region late in the first half of the 19th century. The subject property is outlined and indicated by a bold arrow. This enlargement indicates that several farms were established on the north side of Half Hollow Road at this date. The five Towns College Site is indicated as cleared pasture land. The J. Nostran House is indicated just north of the subject parcel. No structures are indicated in the study area. See Map 3 below, Map-Figure 3.



Map-Figure 3. Enlargement 1836-38 US Coastal Survey.

4. Chase 1858 Map.

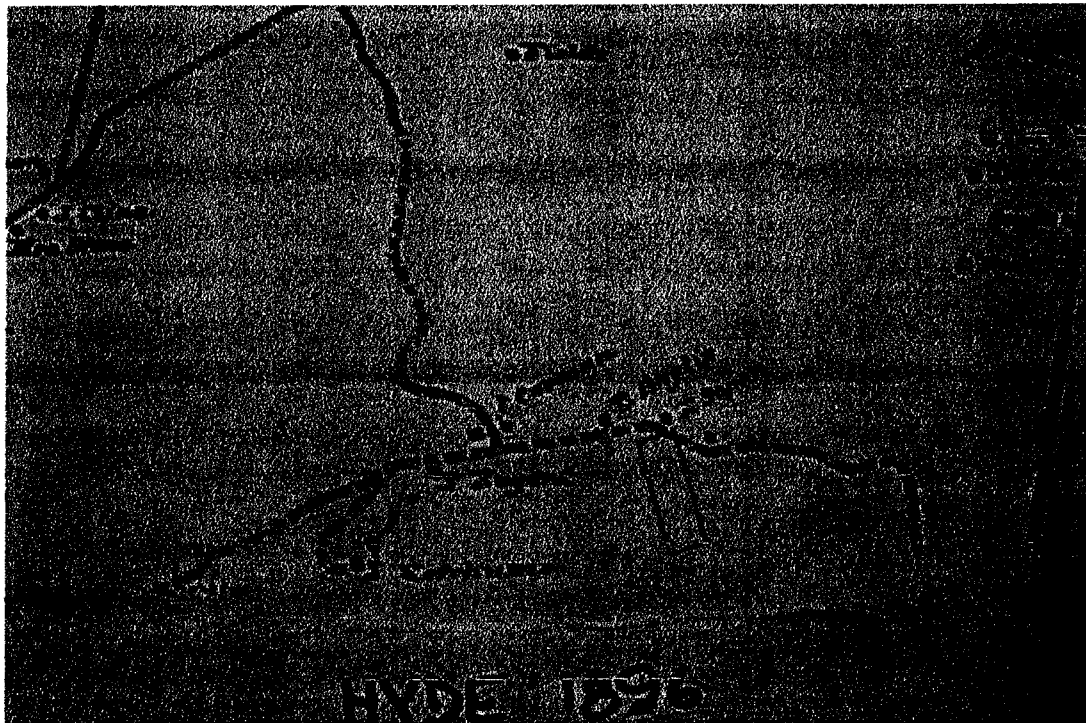
The Chase map figures roads and notes residences and property owners is the beginning of the latter half of the 19th century. Families such as the Ketchums, Bayliss, Carlls, Sands, Combs and others were listed as residing in the general area of the subject property. There are no indications of structures or residences in the vicinity of the subject property. See Map-Figure 4 below.



Map-Figure 4. Chase Map 1858.

5. Hyde 1896

The Hyde Map indicates the location of Half Hollow Road, and Melrose Road (or Carman Road). The Baylis and Soper residences are noted on the north side of Half Hollow Road. There are no indications of settlement in the vicinity of the subject property. See Map-Figure 5 below.



Map-Figure 5. Hyde Map of 1896.

6. USGS Greenlawn Quadrangle 1947

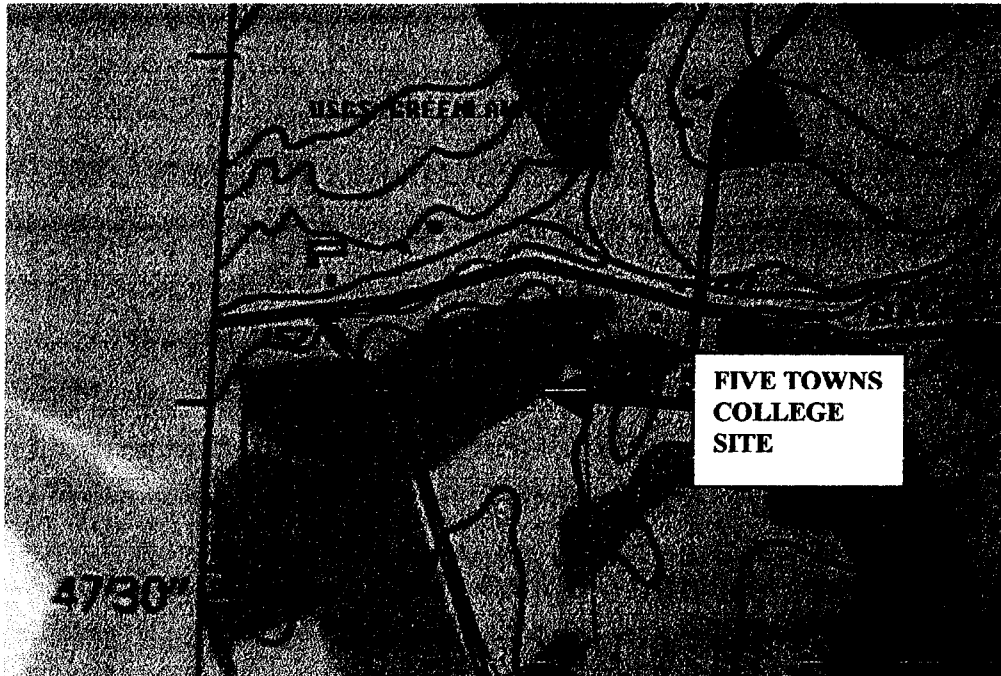
The USGS Greenlawn map of 1947 indicates the topography and culture of a period during the latter part of the fourth decade of this century. This map shows the proposed extension of the Vanderbilt Motor Parkway across the western portion of the study area. The former Nostran farm and Peaceful Valley Farm are located just north of the subject parcel. An intermittent stream is noted north of Half Hollow Road. A residence is noted on the ridge above the intersection of Upper Half Hollow Road and Burrs Lane at an elevation of approximately 190 feet above msl. The residence is in a clearing nearly 300 feet south of Half Hollow Road. The remainder of the parcel is wooded in the northern half and cleared open field in the southern half. See Map Figure 6 below.



Map-Figure 6. USGS Greenlawn 1947.

7. USGS Greenlawn 1954

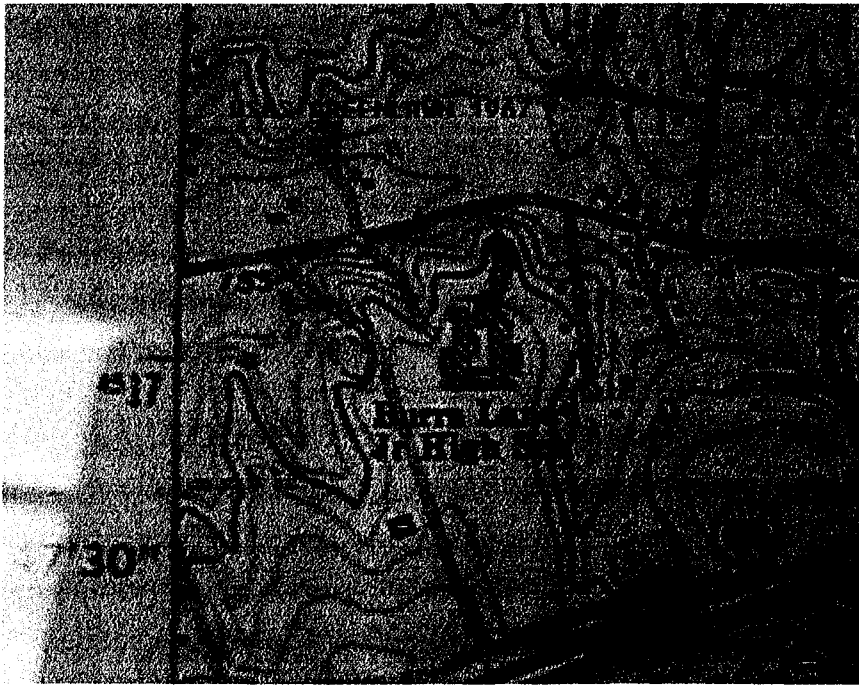
The Greenlawn Quadrangle of 1954 indicates the topography and culture of a period during the second half of this century. The intermittent stream is in this map indicated as a flowing stream. Peaceful Valley farm is no longer noted. The Baylis and former Nostran residences are indicated. The residential structure noted in the northwest corner of the subject parcel is no longer figured. There are few other notable changes. See Map-Figure 7 below.



Map-Figure 7. Greenlawn 1954.

8. USGS Greenlawn 1967

The USGS Map of 1967 indicates the topography and culture of a period during the latter part of the second half of this century. Sometime between 1954 and 1967 the Burrs Lane Junior High School was constructed on the ridge overlooking Burr Half Hollow Road. A roadway access provided ingress into the northern section of the parcel from Half Hollow Road. Two recharge basins are noted one to the north of the road and one to the south. Alterations of topography, probably the result of filling related to construction, are reflected in variations in contour interval patterns on the east side of the school. NYS Route 495 was completed through the area to the south of the campus sometime between 1954 and 1967. It cut through the region just south of the southern end of the parcel. See Map-Figure 8 below.



Map-Figure 8. USGS Greenlawn 1967

CHRONOLOGY OF EVENTS RELATING TO THE SUBJECT PROPERTY

In prehistoric times bands of native Americans exploited the region around the Half Hollow Hills which were known as Squaw Pit by the Secatogues. Later the general region was known by this name. Subsequently, the locals began to call the region around the hills formed into a half-hollow-- Half Hollow Hills. In earlier times local streams and creeks probably intersected a higher ground water table that permitted stream water to flow more copiously than at the present. The level grounds bordering the creeks may have been suitable for native American encampments, while the surrounding forests and cleared areas must have provided a source of fuel, building materials, vegetable foods, mast and game animals.

European colonists settled the general region late in the 18th century, at which time the more fertile low-lying lands were selected and cleared for farming and pasture. The gravelly nature and steeper slopes of the study area and its interior location well away from major early road systems may have protected it from exploitation during this early period. The general region to the north of Half Hollow Hills was settled and cleared for agriculture and was a well established community by the first third of the 19th century. The Nostran family apparently settled on land just to the north of the subject property sometime prior to 1837. Afterward, prior to the 1870s the Ketchum family occupied a farm just to the west of the Nostran place. The subject property may have been originally part of the Nostran parcel. At this time the subject parcel, with soils too coarse for crops and too steep to plow, was probably used as pasture for sheep, cattle, or horse grazing.

In the latter part of the 19th century, many farms in the region were abandoned. Places formerly used as cropland or as pasture for cattle were permitted to return to forest. Land prices plummeted during this period. Entrepreneurs were attracted to the area to purchase tracts of less desirable agricultural or forested land for subdivision and speculation. In the 1930s and 40s many others of similar intent constructed homes and bungalows along existing roadways in the region. During the World War II years farmers were exempt from the draft and agricultural products were in high demand. It was a good time to develop a farm. Around the 1940s the Peaceful Valley Farm was established on the north side of Half Hollow Road north of the subject property. The region continued to develop as a desirable residential area alongside existing farms and woodlots. During this period the subject property --being abandoned as pasture land early in the century --continued to reforest. Early in the 20th century a plantation of White Pine (*Pinus alba*) was established on the northern section of the parcel. A residence was sited on the parcel in the first half of the present century (20th). Sometime after 1947 the residence was burned, razed or moved from the site. During this period, just after WWII, the region experienced a boom in residential construction. Families arrived in the region and the school age population expanded.

Sometime between 1954 and 1967 the Burr Lane Junior High School was built on the site at a time when the student population of the region was at its highest, probably

around 1958. However, in two decades the region experienced a decline in student population and was faced with excess school room spaces. The Burr Lane Junior High School was leased or sold to the Five Towns College Corporation sometime after 1995.

CONCLUSIONS

There are several known prehistoric sites in the immediate general area as well as historic houses or historic era sites near-by. There are evidences of an early 20th century residence on the site. However, the standing buildings on-site have no historical, architectural or cultural interest. Further study is necessary to evaluate the potential for recovery of significant prehistoric evidences.

SENSITIVITY ASSESSMENT

ASI concludes that the property has a better than average potential to recover prehistoric evidences based on its proximity to known sites, its general geographic location, its contiguity to a potential source of potable water, presence of significant undisturbed forested areas, lack of evidences of erosion, and soils which could preserve cultural evidences.

RECOMMENDATIONS

Prior to any soil disturbance, or alteration by construction activity, a subsurface survey of the property should be made to assess further the recovery of prehistoric evidences. ASI recommends a NYSAA standard Stage IB study of the site to assess prehistoric potential.

RATIONALE

The conclusions herein are based on a thorough documentary study and field inspection.

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PHOTOGRAPHIC ADDENDUM

Photograph Key Map



1. View from Five Towns College north along North Road toward Half Hollow Road.



2. View from gate near Half Hollow Road north toward College. See Key Map page 22.

3. View of forested area in vicinity of the planned Library Extension. See Key Map page 22.



4. View of base of large Scarlet Oak with quartz and quartzite pebbles exposed by rainwater erosion.

5. Forest of various oak species located north and east of College building. See Key Map page 22.



6 East side of North Road with piles of leaves and other lawn maintenance debris. Note White Pine Trees.

HARTGEN ASSOCIATES, INC.
CULTURAL RESOURCE SPECIALISTS
 1704 Washington Ave. Extension
 MENDOTA, NEW YORK 12144

(518) 383-0634 Fax (518) 383-6276
 E-MAIL: hartgen@hartgen.com

LETTER OF TRANSMITTAL

DATE: 12-1-99 TIME: 1:12 PM
 TO: REC-1000
 FROM: Five Towns College Expansion

RE: ARCHAEOLOGICAL SURVEY
 1. RECORDING
 2. FIELD WORK, 12-1-99

WE ARE TRANSMITTING TO YOU THE FOLLOWING:

☐ 1. FIELD NOTES
☒ 2. FIELD WORK
☐ 3. FIELD WORK
☐ 4. FIELD WORK
☐ 5. FIELD WORK
☐ 6. FIELD WORK

1. FIELD WORK
 2. FIELD WORK
 3. FIELD WORK
 4. FIELD WORK
 5. FIELD WORK
 6. FIELD WORK

WE ARE TRANSMITTING TO YOU THE FOLLOWING:

☐ 1. FIELD NOTES
☒ 2. FIELD WORK
☐ 3. FIELD WORK
☐ 4. FIELD WORK
☐ 5. FIELD WORK
☐ 6. FIELD WORK

PLEASE CALL WITH ANY QUESTIONS OR COMMENTS.

Thank you,
 Kim Cronin

Kim Cronin

IF YOU HAVE ANY QUESTIONS OR COMMENTS, PLEASE CALL US AT (518) 383-0634.

7. Copy of Hartgen Associates Letter of Transmittal.

BUILDING STRUCTURE INVENTORY FORM

DIVISION FOR HISTORIC PRESERVATION
NEW YORK STATE PARKS AND RECREATION
ALBANY, NEW YORK 12242-0479

FOR OFFICE USE ONLY

UNIQUE SITE NO. 103-000-0479
QUAD _____
SERIES _____
NEG. NO. _____

PH 6

GREEN

YOUR NAME Town of Huntington DATE Summer/79

YOUR ADDRESS Town Hall, Main St. Hunt. TELEPHONE 421-1000

ORGANIZATION (if any) Community Development Agency

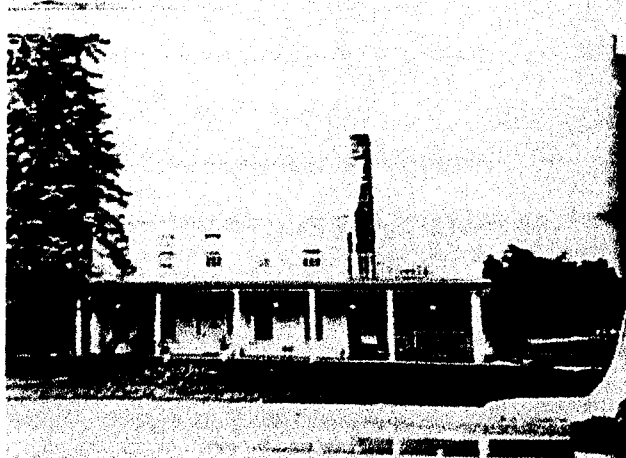
IDENTIFICATION

1. BUILDING NAME(S) Ketchum-Bayliss (Fust) House
2. COUNTY Suffolk TOWN/CITY Huntington VILLAGE _____
3. STREET LOCATION 195 Half Hollow Road
4. OWNERSHIP a. public ☐ b. private ☒
5. PRESENT OWNER Arthur Fust ADDRESS 195 Half Hollow Road
6. USE: Original residence Present residence
7. ACCESSIBILITY TO PUBLIC Exterior visible from public road: Yes ☒ No ☐
Interior accessible Explain by app't. only

DESCRIPTION

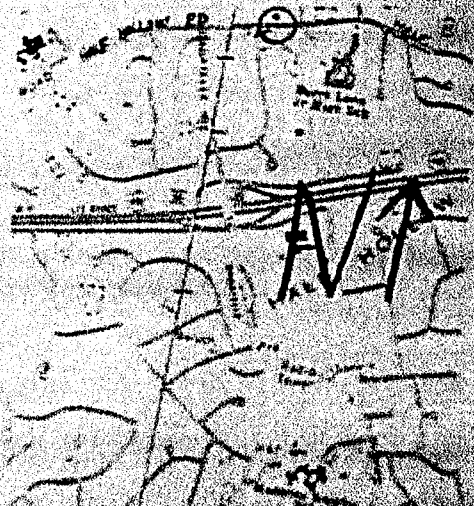
8. BUILDING MATERIAL a. clapboard ☐ b. stone ☐ c. brick ☐ d. board and batten ☐
e. cobblestone ☐ f. shingles ☒ g. stucco ☐ other _____
9. STRUCTURAL SYSTEM a. wood frame with interlocking joints ☒
b. wood frame with light members ☐
c. masonry load bearing walls ☐
d. metal teaplan ☐
e. other _____
10. CONDITION a. excellent ☒ b. good ☐ c. fair ☐ d. deteriorated ☐
11. INTEGRITY a. original site ☒ b. moved ☐ if so, when? _____
c. list major alterations and dates (if known): _____

12. PHOTO




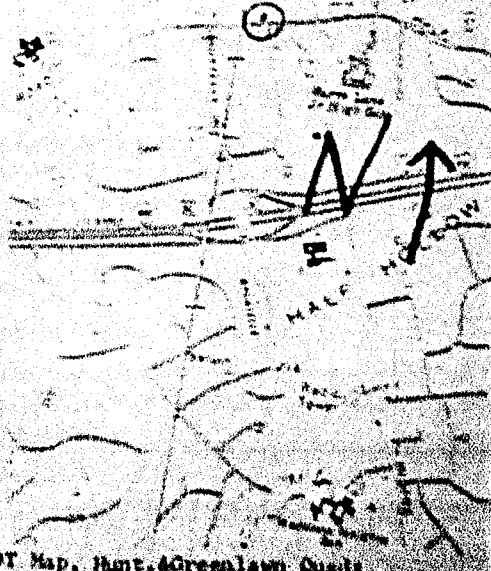
neg. 12 roll 11 neg. 14
south facade

13. MAP



NYS DOT Map, Hunt./Greenlawn Quads.

8. NYSOPRHP Building Inventory Form for Ketchum-Bayliss House (1830s).

BUILDING STRUCTURE INVENTORY FORM		FOR OFFICE USE ONLY	
<p>DEPARTMENT FOR HISTORIC PRESERVATION NEW YORK STATE PARKS AND RECREATION ALBANY, NEW YORK 12241-4747</p>		<p>UNIQUE SITE NO. <u>105-04-047</u> QUAD _____ SERIES _____ NEG. NO. _____</p>	
<p>YOUR NAME <u>Town of Huntington</u> DATE <u>Summer/79</u></p>		<p>HT 5</p>	
<p>YOUR ADDRESS <u>Town Hall, Main St. Hunt.</u> TELEPHONE <u>421-1000</u></p>		<p>YELLOW</p>	
<p>ORGANIZATION (if any) <u>Community Development Agency</u></p>		<p>YELLOW</p>	
<p>IDENTIFICATION</p>			
<p>1. BUILDING NAME(S) <u>Baylis-Sivelle House</u></p>			
<p>2. COUNTY <u>Suffolk</u> TOWN/CITY <u>Huntington</u> VILLAGE _____</p>			
<p>3. STREET LOCATION <u>359 Half Hollow Road</u></p>			
<p>4. OWNERSHIP a. public <input type="checkbox"/> b. private <input checked="" type="checkbox"/></p>			
<p>5. PRESENT OWNER <u>H. Sivelle</u> ADDRESS <u>41 W. Cliff Drive, Dix Hills</u></p>			
<p>6. USE Original <u>residence</u> Present <u>residence</u></p>			
<p>7. ACCESSIBILITY TO PUBLIC Exterior visible from public road: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Interior accessible: Explain <u>by app't. only</u></p>			
<p>DESCRIPTION</p>			
<p>8. BUILDING MATERIAL a. clapboard <input type="checkbox"/> b. stone <input type="checkbox"/> c. brick <input type="checkbox"/> d. board and batten <input type="checkbox"/> e. cobblestone <input type="checkbox"/> f. shingles <input checked="" type="checkbox"/> g. stucco <input type="checkbox"/> other _____</p>			
<p>9. STRUCTURAL SYSTEM a. wood frame with interlocking joints <input type="checkbox"/> b. wood frame with light members <input checked="" type="checkbox"/> c. masonry load bearing walls <input type="checkbox"/> d. metal (replains) _____ e. other _____</p>			
<p>10. CONDITION a. excellent <input checked="" type="checkbox"/> b. good <input type="checkbox"/> c. fair <input type="checkbox"/> d. deteriorated <input type="checkbox"/></p>			
<p>11. INTEGRITY a. original site <input checked="" type="checkbox"/> b. moved <input type="checkbox"/> if so, when? _____ c. lost major alterations and dates (if known) _____ enlarged and remodelled</p>			
<p>12. PHOTO</p>		<p>13. MAP</p>	
			
<p>100 roll 22 neg. 15 South facade</p>		<p>NYS DOT Map, Hunt. & Greenlawn Quads.</p>	

9. NYSOPRHP Building Inventory form for Bayliss-Sivelle House (1874)

Report #Suffolk 6
NEW YORK STATE PREHISTORIC ARCHAEOLOGICAL SITE INVENTORY FORM

For Office Use Only--Site Identifier ALC 104.000794

Project Identifier _____ Date Nov. 30, 1999

Your Name _____ Phone () _____

Address _____

Zip _____

Organization (if any) The York State Museum

1. Site Identifier(s) Half Hollow Nursery Site

2. County Suffolk One of following: City _____
Township Huntington
Incorporated Village _____
Unincorporated Village or Hamlet _____

3. Present Owner _____
Address _____
Zip _____

4. Site Description (check all appropriate categories):

Site	<input checked="" type="checkbox"/> Stray find	<input type="checkbox"/> Cave/Rockshelter	<input type="checkbox"/> Workshop
	<input type="checkbox"/> Pictograph	<input type="checkbox"/> Quarry	<input type="checkbox"/> Mound
	<input type="checkbox"/> Burial	<input type="checkbox"/> Shell midden	<input type="checkbox"/> Village
	<input type="checkbox"/> Surface evidence	<input type="checkbox"/> Camp	<input type="checkbox"/> Material in plow zone
	<input type="checkbox"/> Material below plow zone	<input type="checkbox"/> Buried evidence	<input type="checkbox"/> Intact occupation floor
	<input type="checkbox"/> Single component	<input type="checkbox"/> Evidence of features	<input type="checkbox"/> Stratified
		<input type="checkbox"/> Multicomponent	

Location

<input type="checkbox"/> Under cultivation	<input type="checkbox"/> Never cultivated	<input checked="" type="checkbox"/> Previously cultivated
<input type="checkbox"/> Pastureland	<input type="checkbox"/> Woodland	<input type="checkbox"/> Floodplain
<input type="checkbox"/> Upland		<input checked="" type="checkbox"/> Sustaining erosion

Soil Drainage: excellent _____ good ☒ fair _____ poor _____

Slope: flat _____ gentle ☒ moderate _____ steep _____

Distance to nearest water from site (approx.) ?

Elevation: 150 ft.

5. Site Investigation (append additional sheets, if necessary):

Surface date(s) _____

Site Map (Submit with form*) _____

Collection _____

Subsurface--date(s) _____

Testing: shovel _____ coring _____ other _____ unit size _____

no. of units _____ (Submit plan of units with form*)

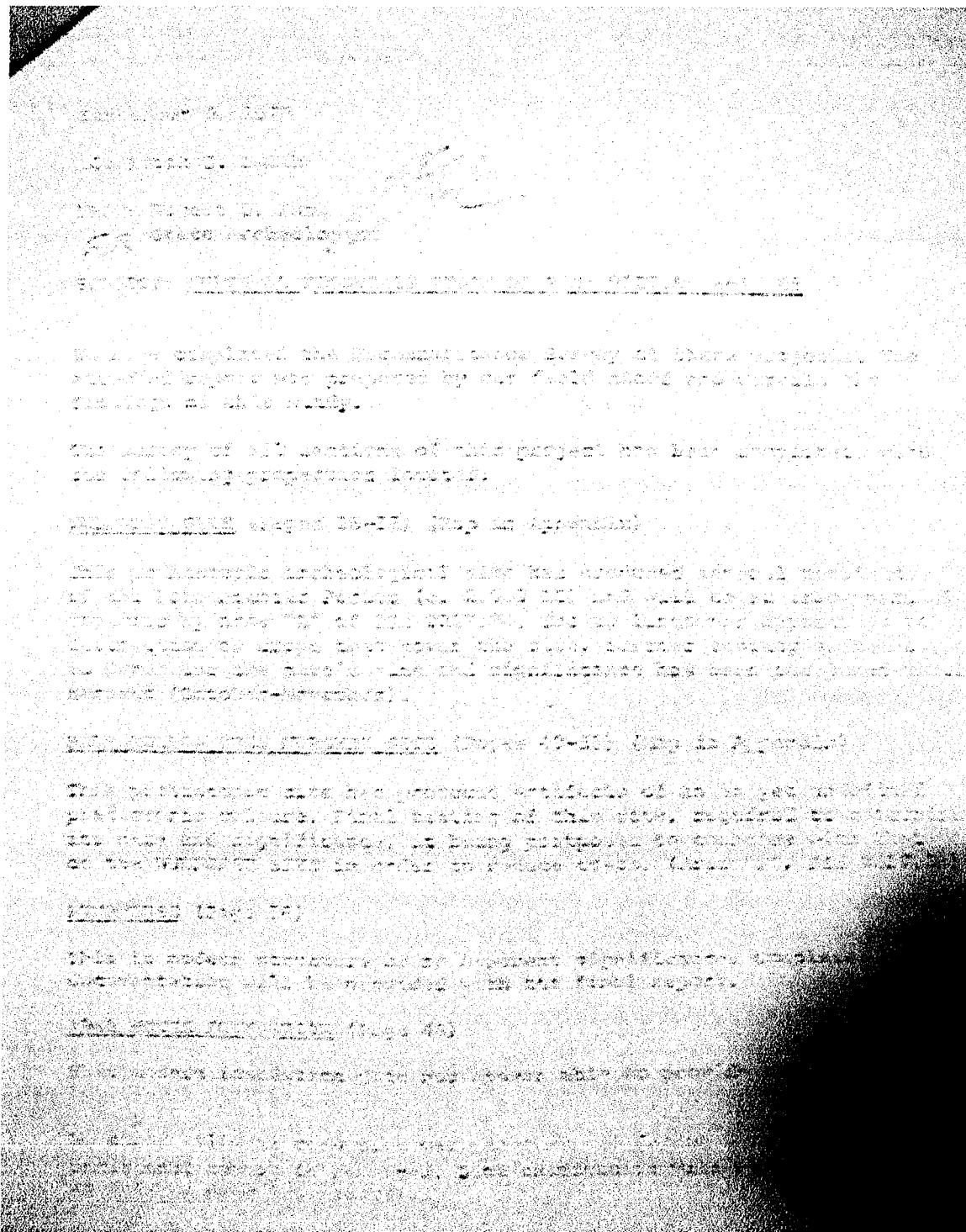
Excavation: unit size _____ no. of units _____

(Submit plan of units with form*)

* Submission should be 8 1/2"x11", if feasible

Investigator _____

10. NYSM Site Form for Half Hollow Nursery Site.



11. Portion of Anthropological Survey, NYS science Service, NYS DOT PINS 0227.84 AND 0227.86, R.J. Murphy 1978.

Appendix D-2
Phase IB Study

12-22-99



NELSON, POPE & VOORHIS, LLC
ENVIRONMENTAL • PLANNING • CONSULTING

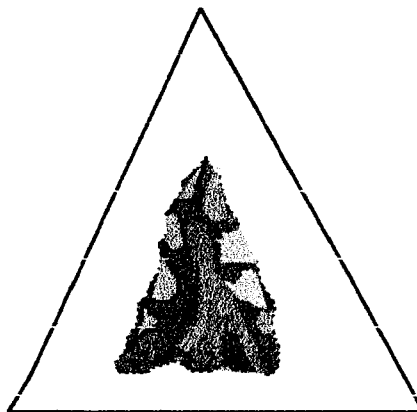
CULTURAL RESOURCES STUDY

FIELD RECONNAISSANCE STUDY

PHASE IB

**FIVE TOWNS COLLEGE
EXPANSION SITE**

DIX HILLS, HUNTINGTON TOWNSHIP, SUFFOLK COUNTY, NEW YORK



ASI

ARCHAEOLOGICAL SERVICES LLC

11 WOODTHRUSH COURT
EXECUTIVE CIRCLE
MILLER PLACE, NEW YORK 11764

**FIVE TOWNS COLLEGE EXPANSION SITE
Dix Hills, New York**

Field Reconnaissance Survey, Phase IB

Date of initiation of this file: December 20 , 1999

Date of completion:

12-22-99

Revised and amended: 12-22-99

Author and principal investigator: Robert J. Kalin

Endorsement:_____

Date:_____

Robert J. Kalin

Professional Archaeologist,

Professional Geologist,

36 CFR 61 Qualified Archaeologist

President

Archaeological Services

11 Woodthrush Court, Executive Circle

Miller Place, New York 11764

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516-331-5665

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Mobile: 516-817-4373

Email: darkvrakos@msn.com

EXECUTIVE SUMMARY

A protocol which included an extensive surface study of the proposed impact area associated with the proposed Five Towns College, Living-Learning Center Expansion site as well the excavation and analysis of twenty-nine grid-sited and other subsurface hand-dug test probes revealed no significant cultural evidences. No significant historic or prehistoric evidences were encountered within the parcel. No further study is warranted.

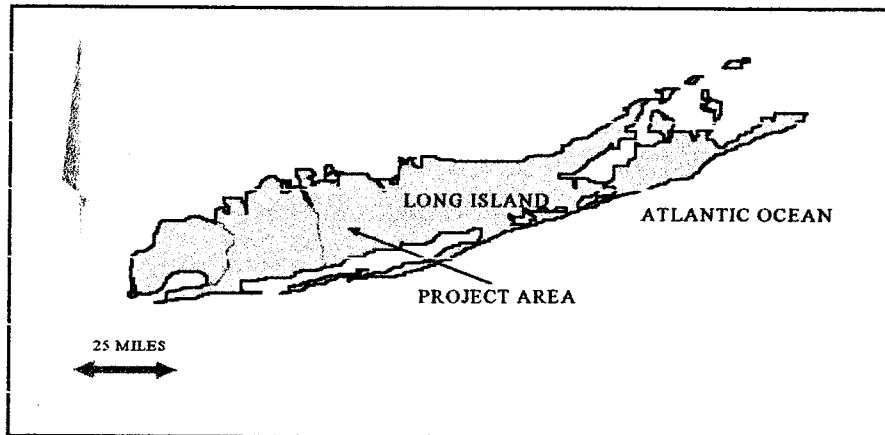


Figure 1. Map showing general location of the study area.

CONTENTS

EXECUTIVE SUMMARY.....	3
INTRODUCTION.....	5
OBJECTIVES.....	5
ENVIRONMENTAL INFORMATION.....	6
METHODS.....	8
SURFACE STUDY AND STRATEGY.....	8
FIELD METHODS.....	9
SURFACE AND SUBSURFACE STUDY.....	10
CONCLUSIONS.....	11
BIBLIOGRAPHY.....	12
ADDENDUM, TEST PROBE DATA.....	13

INTRODUCTION

The following report is the result of a Phase IB, cultural resources field reconnaissance study of the Five Towns College Expansion Site located east of Burr Lane and south of Half Hollow Road, Huntington Township, Suffolk County, New York (See IA attached).

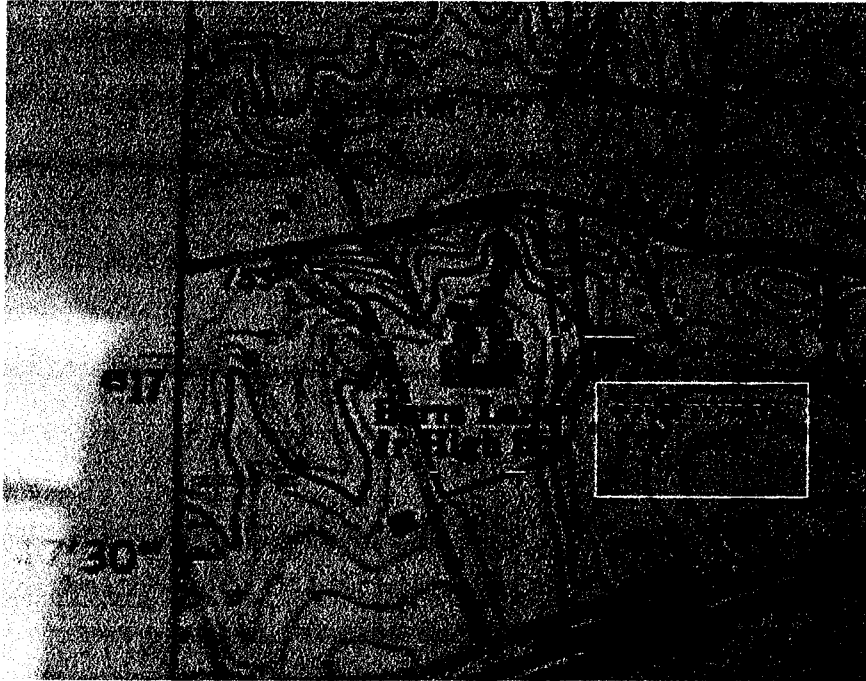


Figure 2. Figure of location of Five Towns College, superimposed on a section of the USGS Greenlawn Quadrangle, 1967.

OBJECTIVES

The primary objectives of this study are to make an assessment regarding the actual physical *presence or absence* of significant cultural materials found within the site. This is to be accomplished by means of methodical surface observations and subsurface testing.

DESCRIPTION OF STUDY AREA

Five Towns College occupies a wooded parcel on the south side of Half Hollow Road west of Burrs Lane in the Township of Huntington, Suffolk County. The College has proposed a construction plan for a Living Learning Center that will occupy the northeast corner of the parcel. The site is presently occupied by an elongate, one-storey brick and steel structure used for instructional purposes. Parking for staff and students occupies a cleared area to the south of the College structure which is partially paved and partly surfaced with gravel. This study is confined to those areas that are to be impacted by the proposed construction of four student Living-Learning Residences, a future library and library court, as well as improvements to existing gravel surfaced parking lots. The

parcel is mostly cleared of forest except for areas in the north and northeast that are wooded. The property, occupied by the former Burr Lane Junior High School and its parking lot, slopes steeply from an elevation of approximately 210 feet above mean sea level (msl) is to Half Hollow Road at an elevation of approximately 155 feet (above msl) which borders the parcel on the north.

DESCRIPTION OF THE PROPOSAL

The proposal calls for the construction of four student residence buildings located in Area A, a proposed library addition in Area B, and improvement of gravel surfaced parking lots located in Area C (See below, Figure 3).

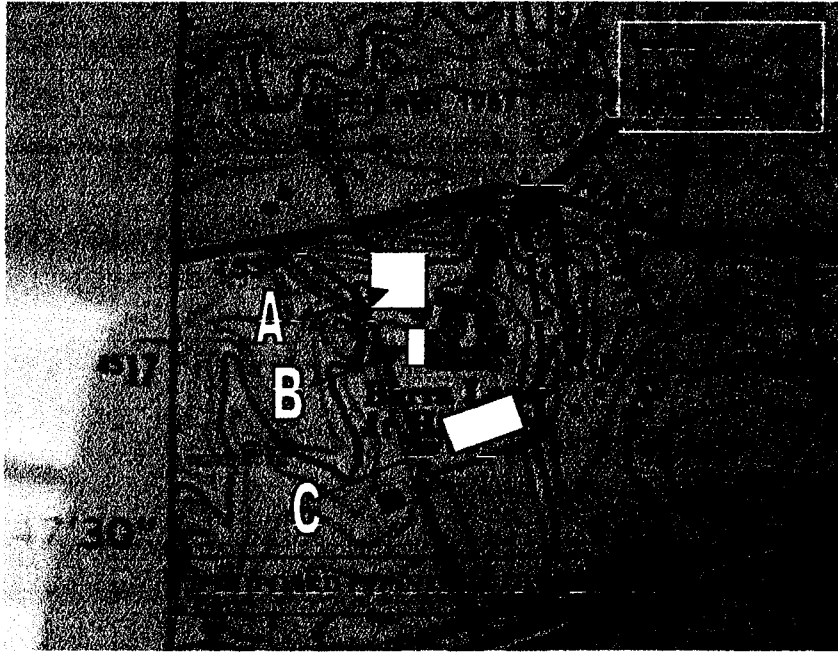


Figure 3. Figure of proposed construction areas at Five Towns College, superimposed on section of USGS Greenlawn Quad 1967.

ENVIRONMENTAL INFORMATION

See Phase IA CRA

FIELD SURVEY DATES AND CONDITIONS

The field survey was conducted by this author on 12-18-99. Conditions were stable during this period, and there were no circumstances encountered that could have altered the results of the study.

EXISTING STRUCTURES

There are no standing structures and no evidences of structures in the impact areas.

FIELD TEAM

The principal investigator and author of the report supervised and led the field team. Mr. Robert J. Kalin made field observations and dug the subsurface tests. Frances A. Kalin assisted, recorded field notes and made observations.

DISPOSITION OF CULTURAL EVIDENCES RECOVERED

Cultural materials removed from the study area for identification or further study are temporarily stored at the ASI facility at Miller Place, New York. These materials (several pieces of bottle glass, 1 piece of clear glazed whiteware ceramic (possibly from coffee or tea cup) and a few pieces of wood charcoal and coal cinders) will be submitted to Five Towns College for storage, or with their permission, to the New York State Archaeological Association Museum, Southold, New York or other similar formal repository for conservation and preservation.

METHODS AND RESULTS

A. SURFACE OBSERVATIONS

Systematic observations of the surface of the proposed impact areas A, B and C were conducted by preparing a surface observation grid with grid lines spaced at approximately ten (10) meter intervals. Field team members and the author walked grid lines at the site and recorded all cultural materials, features, and other pertinent features. Particular attention was directed to all areas where the soil or subsoil was exposed. Where cultural materials were observed distances from datum were planned to be calculated and counts of materials were to be made.

1. RESULTS OF SURFACE OBSERVATIONS

Scattered evidences of disposal and dumping along the margins of the bounding and interior roadways, such as debris from clearing and maintenance projects such as piles of leaf litter, cut tree limbs and other similar materials were encountered. Several shallow pits, probably tree removal pits, were observed in the impact area (Area A) as well as a foot trail (Area A) and piles of tree trimmings and leaf piles (Area A). An isolated patch of Periwinkle and Climbing Ivy was observed within an area of White Pine woods in the northwestern section of Area A, about 100 feet north of Half Hollow Road. The Stage IA report indicated the location of a residence site in this general area. No surface manifestations or physical evidences of the residence site were observed other than these possible escapee plantings which may suggest the location of the residence site. It is noteworthy that the proposed impact area does not impact the general location of the former residence site. Scattered debris was observed along the margin of Half Hollow Road at the north end of the proposed impact area. Area B was impacted by the construction of an interior roadway in recent years. Here soil and gravelly subsoil is found scattered and piled along the woods margin. Scattered debris was recorded in the interior of this section as well. Area C is a parking lot that has been altered and partially surfaced. No culturally significant observations were recorded in this area.

B. SUBSURFACE STUDY

Soils evolve with the physical, climatic and human history of the site. Cultural and other evidences may be buried within the soil and preserved there. The materials, (and the cultural information they represent) may be retrieved by their disinterment and disengagement from the soil by means of sieving and cleaning. Subsequently, the recovered materials can be identified, counted and recorded, and finally analyzed and evaluated for historic and cultural significance.

1. TESTING PROCEDURES AND STRATEGY

The objective of the soil testing protocol at Five Towns College Expansion Site was to recover and analyze all materials recovered from the surface of the impact areas and from subsurface tests in those areas. Areas of steep slopes (> 15% grade), disturbed areas, places from which soil had been removed, and areas covered by debris or soil were excluded (as per ASA standards) from this testing protocol. Since it is impractical to examine the entire soil mantle in the remaining areas planned for construction alteration, soil sampling is necessary. At the subject property, shovel probes (hand dug shovel tests) were located within the proposed impact area in such a way as to prevent concentrations in those places possessing any particular characteristic of slope, topography, or disturbance level in preference to areas lacking these characteristics. Tests were sited so as to generate a random sample of the impact area soil. Our strategy consisted of preparing a 10 meter (@30 foot) test grid with north-south and east-west transects. Test probes were sited at the intersections of the grid lines and each test was dug to culturally sterile soil. When a probe site was occupied and noted to have steep slope or consist of disturbed or fill soil that probe site was voided and recorded as "out". Data from dug tests were analyzed and recorded on ASI field forms (included in Addendum).

The ASI testing strategy attempted to provide a random representation of the soil and subsoil character and the cultural content of the soil or lack of it. From these data information concerning the level of disturbance and presence or absence of significant cultural materials within the solum of the parcel may be generated. Furthermore, additional tests were dug in areas that due to Stage IA information, or based on topographic character or other factors. Several tests of this nature were dug along the crest of the knoll in Area A and were designate "K" tests. Several were dug in the vicinity of the proposed library as "L" tests.

2. FIELD METHODS

Field crew followed designated transects along magnetic azimuths by means of hand-held Suunto or Silva compasses. Distances were estimated by standard pacing methods. Test holes were spaced at 10 meter (@ thirty-three 33 foot) intervals. AS's strategy included a plan to assess dispersion of subsurface cultural materials by surrounding culturally positive test probes with additional probes dug in the cardinal directions. Each of these cardinal test lines were planned to be extended by 3 foot intervals until two consecutive tests were found to be negative. No tests of this character were found to be necessary and none were dug at the subject property.

Standard shovel probes of about 40 cm in diameter and 50 to 60 cm deep were dug by levels to undisturbed glacial, culturally barren subsoil. (Test probe levels dug at Five Towns College Expansion Site were the following: 0 to 6 inches (15 cm), 6-12 inches (30 cm), 12 to 18 or more inches(45 + cm). At each level the excavated soil was sieved through a 0.64 cm (1/4 inch) wire mesh screen. Cultural materials retained on a

1/4 inch wire mesh screen from each level were identified, counted and recorded. Soil color and texture for each level was also recorded. At Five Towns College Expansion Site a medium dark gray to reddish brown loamy sand with gravel and pebbles was found to occur widely in Area A. Area B has soils examined in this study have less gravel and more clay. All data was duly recorded at the time of recovery. The volume of soil screened was approximately consistent from test to test. The nature of the soil was recorded as well as a measure of soil texture based on the percent materials coarser than 1/4 inch in diameter.

DATUM

A formal datum for the project area was established at the corner of Burr Lane and Half Hollow Road. A sub-datum for Area A and Area B was established at LILCO Pole #2 located along the margin of the north-south interior roadway. A flagged stake was sited by field measurement from that point (Pole #2) to the E0/S0 test probe.

SUMMARY OF SUBSURFACE TESTING

Twenty-nine subsurface test probes were dug in Area A and Area B. No tests were attempted in Area C. Tests were not dug in steeply sloping areas, in areas of disturbed soil, or in areas covered by soil, fill or other materials. In Area A, Test Probe 0/0 revealed one piece of bottle glass in Level 1. Test Probe S10/E0 revealed three small pieces of charcoal in level 1 and five similar pieces in Level 2. Test Probe K1 had a shard of clear bottle glass shard in Level 1, while K4 had a shard of clear bottle glass in L1 as well. Test Probe K6 revealed two small pieces of anthracite coal, one coal cinder, and one piece of white-glazed ceramic (a shard of a tea cup). All other tests were culturally barren. The test results indicate no significant cultural evidences were recovered from the study areas. See AS Field Data Forms in Addendum to this report.

FEATURES REPORTED

No features were reported.

PROBLEMS ENCOUNTERED

No problems were encountered that could have altered or influenced the conclusions.

NOTE ON DISTRIBUTION OF SUBSURFACE TESTS

Subsurface testing was confined to those areas of the Five Towns College Campus that were proposed for impact by the construction activities. As per New York State Archaeological Standards for Stage IB studies, subsurface tests were dug within the impact area only in those places that were likely to have cultural evidences preserved. No tests, therefore, were dug in steeply sloping areas, in areas of disturbed or imported soil, or in zones covered by transported soil, fill, or other materials. As a consequence, potential subsurface testing sites at Five Towns College were restricted to a relatively small area. In Area A, the primary zone for construction activity, testing was excluded due to steep slope, soil displacement or disturbances, and by being covered by asphalt, or disposed materials. In Area B some potential tests were excluded due to soil disturbances and soil cover associated with the construction of adjacent roadways. In Area C no tests were dug due to the fact that the area had been altered by grading, compaction and was covered by asphalt or blue stone surfacing materials.

CONCLUSIONS

A systematic surface survey and methodological subsurface study, and a protocol that included the excavation and analysis of twenty-nine (29) subsurface tests within the proposed impact area revealed no significant cultural evidences. Cultural materials such as bottle glass, a tea cup shard, wood charcoal, coal and coal cinders, are all attributable recent human activities on the knoll such as picnics and minor disposal events. Other historic materials recovered on the surface and subsurface were all attributable to past dumping activity. No further study is warranted.

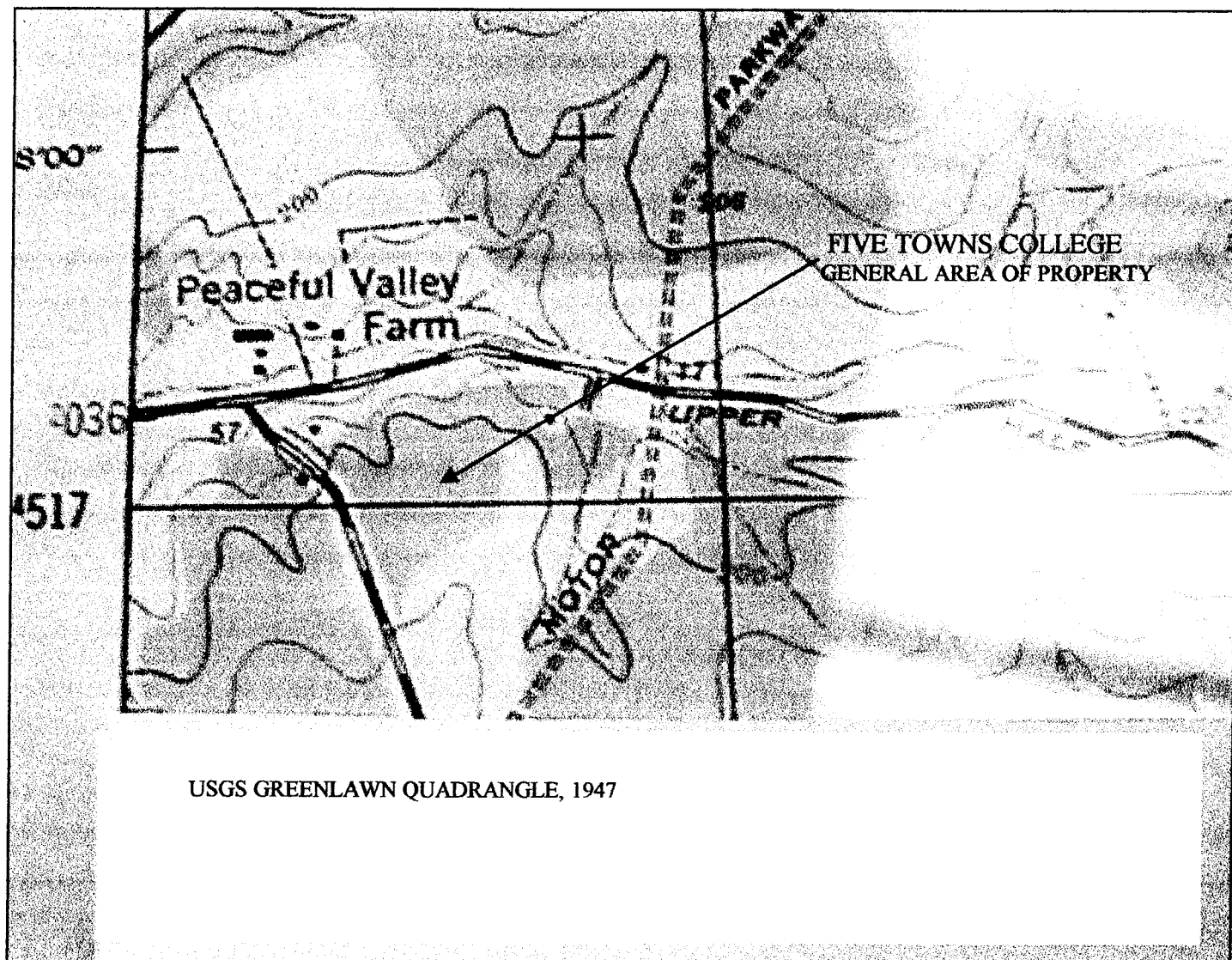
RATIONALE

These conclusions are based on a thorough systematic visual and subsurface survey of the impact area.

BIBLIOGRAPHY

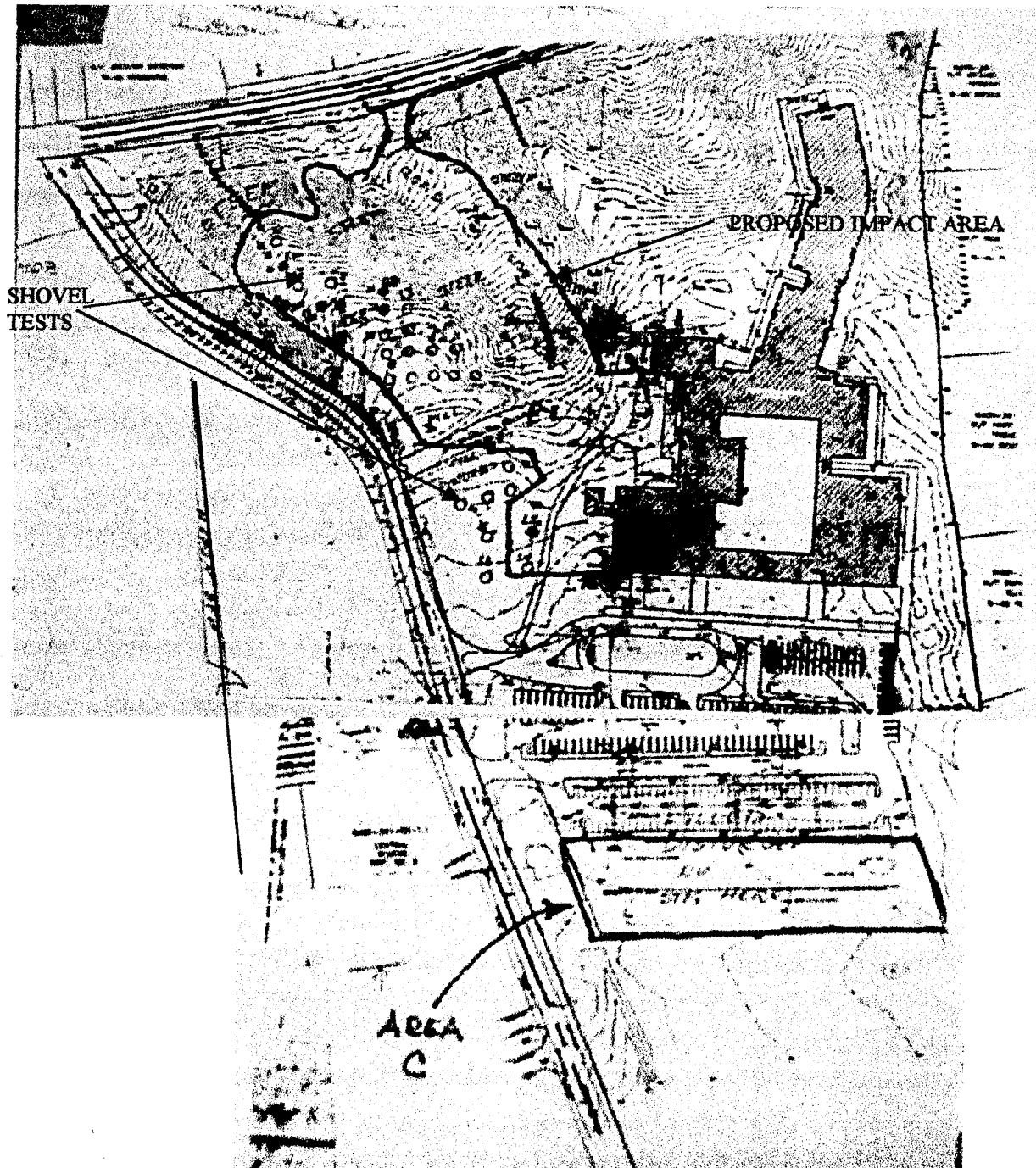
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SUBSURFACE DATA



MAP OF FIVE TOWNS COLLEGE

MAP ILLUSTRATES LOCATION OF
SHOVEL TESTS AND PROPOSED
IMPACT AREA



DATA SHEET 2 OF 4

PROJECT NAME		DATE		PAGE 2	
TEST AREA					
GENERAL DIRECTION OF TRAFFIC AND DISTANCE BETWEEN TESTS					
COLLECTION					
NO	STP	NO	STP	NO	STP
1	5050	2	5050	OUT	STOP
					Level 1
					Level 2
					Level 3
2	5050	2	5050	OUT	STOP
					Level 1
					Level 2
					Level 3
3	50620	2	50620	Same	Same
					Level 1
					Level 2
					Level 3
4	50620	2	50620	Same	Same
					Level 1
					Level 2
					Level 3
5	50620	2	50620	Same	Same
					Level 1
					Level 2
					Level 3
6	50620	2	50620	Same	Same
					Level 1
					Level 2
					Level 3
7	50620	2	50620	Same	Same
					Level 1
					Level 2
					Level 3
8	50620	2	50620	OUT	STOP
					Level 1
					Level 2
					Level 3
9	50620	2	50620	OUT	STOP
					Level 1
					Level 2
					Level 3
10	50620	2	50620	OUT	STOP
					Level 1
					Level 2
					Level 3
11	50620	2	50620	OUT	STOP
					Level 1
					Level 2
					Level 3

DATA SHEET 3 OF 4

TEST NAME		DATE		PAGE	
TEST AREA					
TEST NAME (FUNCTION OF TRANSISTOR AND CAPACITOR NETWORK TEST)					
CIRCUIT					
NO.	Q1	Q2	Q3	Q4	Q5
1	100K	100K	100K	100K	OUT
2	100K	100K	100K	100K	OUT
3	100K	100K	100K	100K	OUT
4	100K	100K	100K	100K	OUT
5	100K	100K	100K	100K	OUT
6	100K	100K	100K	100K	OUT
7	100K	100K	100K	100K	OUT
8	100K	100K	100K	100K	OUT
9	100K	100K	100K	100K	OUT
10	100K	100K	100K	100K	OUT
11	100K	100K	100K	100K	OUT
12	100K	100K	100K	100K	OUT
13	100K	100K	100K	100K	OUT
14	100K	100K	100K	100K	OUT
15	100K	100K	100K	100K	OUT
16	100K	100K	100K	100K	OUT
17	100K	100K	100K	100K	OUT
18	100K	100K	100K	100K	OUT
19	100K	100K	100K	100K	OUT
20	100K	100K	100K	100K	OUT

FILE
100K 100K
100K 100K
100K 100K
100K 100K

DATA SHEET 4 OF 4

COLLECTOR NAME						DATE	PAGE
SITE NAME						COLLECTOR	
DIRECTION OF TRAVEL AND DISTANCE BETWEEN TENTS							
NO.	TIME	NO. OF	NO. OF	NO. OF	NO. OF	NO. OF	NO. OF
1	10:00	1	1	1	1	1	1
2	10:15	1	1	1	1	1	1
3	10:30	1	1	1	1	1	1
4	10:45	1	1	1	1	1	1
5	11:00	1	1	1	1	1	1
6	11:15	1	1	1	1	1	1
7	11:30	1	1	1	1	1	1
8	11:45	1	1	1	1	1	1
9	12:00	1	1	1	1	1	1
10	12:15	1	1	1	1	1	1
11	12:30	1	1	1	1	1	1
12	12:45	1	1	1	1	1	1
13	13:00	1	1	1	1	1	1
14	13:15	1	1	1	1	1	1
15	13:30	1	1	1	1	1	1
16	13:45	1	1	1	1	1	1
17	14:00	1	1	1	1	1	1
18	14:15	1	1	1	1	1	1
19	14:30	1	1	1	1	1	1
20	14:45	1	1	1	1	1	1
21	15:00	1	1	1	1	1	1
22	15:15	1	1	1	1	1	1
23	15:30	1	1	1	1	1	1
24	15:45	1	1	1	1	1	1
25	16:00	1	1	1	1	1	1
26	16:15	1	1	1	1	1	1
27	16:30	1	1	1	1	1	1
28	16:45	1	1	1	1	1	1
29	17:00	1	1	1	1	1	1
30	17:15	1	1	1	1	1	1
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35	18:30	1	1	1	1	1	1
36	18:45	1	1	1	1	1	1
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40	19:45	1	1	1	1	1	1
41	20:00	1	1	1	1	1	1
42	20:15	1	1	1	1	1	1
43	20:30	1	1	1	1	1	1
44	20:45	1	1	1	1	1	1
45	21:00	1	1	1	1	1	1
46	21:15	1	1	1	1	1	1
47	21:30	1	1	1	1	1	1
48	21:45	1	1	1	1	1	1
49	22:00	1	1	1	1	1	1
50	22:15	1	1	1	1	1	1
51	22:30	1	1	1	1	1	1
52	22:45	1	1	1	1	1	1
53	23:00	1	1	1	1	1	1
54	23:15	1	1	1	1	1	1
55	23:30	1	1	1	1	1	1
56	23:45	1	1	1	1	1	1
57	24:00	1	1	1	1	1	1
58	24:15	1	1	1	1	1	1
59	24:30	1	1	1	1	1	1
60	24:45	1	1	1	1	1	1
61	25:00	1	1	1	1	1	1
62	25:15	1	1	1	1	1	1
63	25:30	1	1	1	1	1	1
64	25:45	1	1	1	1	1	1
65	26:00	1	1	1	1	1	1
66	26:15	1	1	1	1	1	1
67	26:30	1	1	1	1	1	1
68	26:45	1	1	1	1	1	1
69	27:00	1	1	1	1	1	1
70	27:15	1	1	1	1	1	1
71	27:30	1	1	1	1	1	1
72	27:45	1	1	1	1	1	1
73	28:00	1	1	1	1	1	1
74	28:15	1	1	1	1	1	1
75	28:30	1	1	1	1	1	1
76	28:45	1	1	1	1	1	1
77	29:00	1	1	1	1	1	1
78	29:15	1	1	1	1	1	1
79	29:30	1	1	1	1	1	1
80	29:45	1	1	1	1	1	1
81	30:00	1	1	1	1	1	1
82	30:15	1	1	1	1	1	1
83	30:30	1	1	1	1	1	1
84	30:45	1	1	1	1	1	1
85	31:00	1	1	1	1	1	1
86	31:15	1	1	1	1	1	1
87	31:30	1	1	1	1	1	1
88	31:45	1	1	1	1	1	1
89	32:00	1	1	1	1	1	1
90	32:15	1	1	1	1	1	1
91	32:30	1	1	1	1	1	1
92	32:45	1	1	1	1	1	1
93	33:00	1	1	1	1	1	1
94	33:15	1	1	1	1	1	1
95	33:30	1	1	1	1	1	1
96	33:45	1	1	1	1	1	1
97	34:00	1	1	1	1	1	1
98	34:15	1	1	1	1	1	1
99	34:30	1	1	1	1	1	1
100	34:45	1	1	1	1	1	1

ADDITIONAL TESTS - DATA SHEET 1 OF 1

ASI FIELD FORM

PROJECT NAME 5 TOWNS COLLEGE					DATE 3-13-00	PAGE 8
TEST AREA NORTH: HATCH AREA / SOUTH PARKING LOT						
DESCRIBE DIRECTION OF TRANSECT AND DISTANCE BETWEEN TESTS						
AT VARIOUS INTERVALS					COLLECTOR	
					RJK	
NO.	STP	SO ED	SOIL COL	SOIL TX	% W/IN OA	CULTURE
1	01	0'-2" 2'-2"	DK BR LT TAN	HUMUS SILTY SAND	5%	Level 1 = CN Level 2 = CN Level 3 = CN CUT + FILL ACROSS VIL ROAD
2	02	0'-2" 2'-4" 4'-8" 8'-10"	DK BR LT TAN MD BR TAN GRAY	HUMUS SILTY SAND SILTY SAND TS RICH	4% 6% 0% 5%	Level 1 = CN Level 2 = CN Level 3 = CN Level 4 = CN
3	03	0'-" "-" "-"	TAN LAYER OF SOIL	OVER ASPHALT		Level 1 = SANDY WASHED SILT Level 2 = UNDEVELOPED Level 3 = NO TEST (CUT) ROAD BED
4	04	0'-2" 2'-3" 3'-4" 4'-10"	DK BR LT TAN DK BR MD BR	HUMUS SILTY SAND HUMUS (CN) SILTY SAND	0% 1% 5% 5%	Level 1 = CN Level 2 = CN Level 3 = CN Level 4 = CN THIN FILL ORIGINAL SOIL
5	05	0'-2" 2'-8"	DK BR LT TAN	HUMUS SILTY SAND	5%	Level 1 = CN Level 2 = CN Level 3 = CN CUT + FILL
6	06	0'-" "-S"	S	S	S	Level 1 = CN Level 2 = CN Level 3 = CN CUT + FILL
7	07	0'-8" "-"	LT TAN	PBB SAND N/SAND	50%	Level 1 = CN Level 2 = CN Level 3 = CN PEBBLES + CAGGLES MIXED N/CAVITIES OF DEBRIS + Debris
8	08	0'-" "-S"	S	S	S	Level 1 = CN Level 2 = CN Level 3 = CN "
9	09	0'-" "-S"	S	S	S	Level 1 = CN Level 2 = CN Level 3 = CN "
10	10	0'-8" "-"	MD BR	PBB SAND N/CAVITIES CONCRETE IN MIDDLE	50%	Level 1 = CN Level 2 = CN Level 3 = CN
11	11	0'-20" "-"	S	PBB SAND CAVITIES N/CAVITIES MIDDLE	30%	Level 1 = CN Level 2 = CN Level 3 = CN
SOUTH UNGRADED PARKING LOT						
12	12	0'-2" 2'-15"	GRAVEL SANDY GRAVEL SANDY GRAVEL	50% 50%	CN Lvl 1 CN Lvl 2	

Appendix D-3
Addendum to Phase IB Study

undated

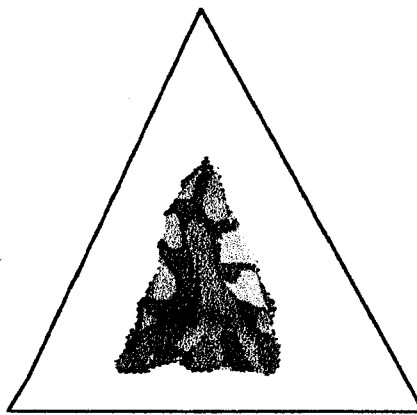


CULTURAL RESOURCES STUDY

ADDENDUM TO FIELD RECONNAISSANCE **STUDY** **PHASE I**

FIVE TOWNS COLLEGE EXPANSION SITE

DIX HILLS, HUNTINGTON TOWNSHIP, SUFFOLK COUNTY, NEW YORK



ASI

ARCHAEOLOGICAL SERVICES LLC

11 WOODTHRUSH COURT
EXECUTIVE CIRCLE
MILLER PLACE, NEW YORK 11764

1. **Regarding the cover page of the bound reports.** Enclosed please find new face page for report corrected as noted.
2. **Regarding the Map Documented Structure.** The Map Documented Structure is well away from the proposed construction zone as inspection of Figures 1 and 2 below reveal.

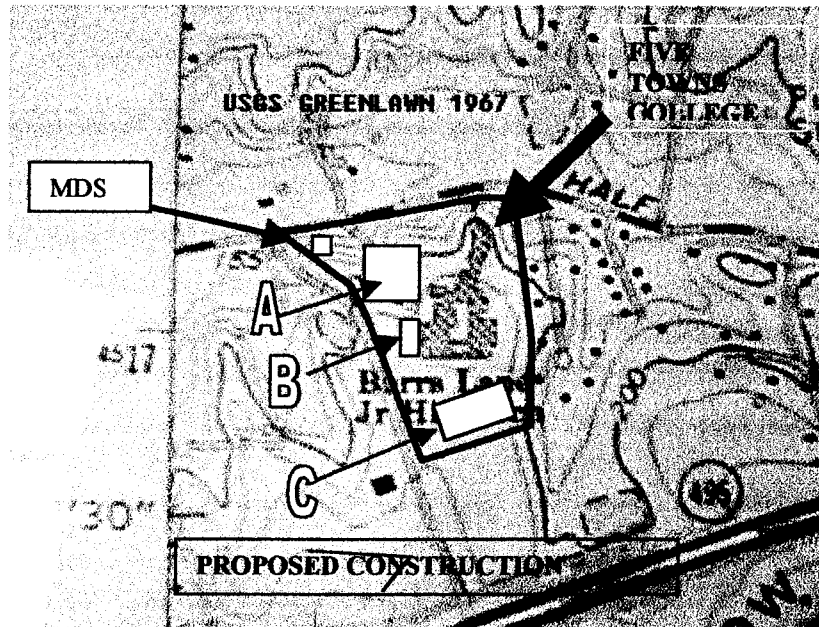


Figure 1. USGS Greenlawn 1967



Figure 2. USGS Greenlawn 1947 showing the MDS at the northwest corner of the property.

At the time of the field survey, the “map documented structure” (MDS) was indicated within a vacant section of woodland. The site is situated in a mature White Pine plantation well beyond the proposed project zone. Surface observations in this area revealed no physical evidences of a structure. Nor was the near-by roadway, indicated on the 1967 USGS, map visible. Though evidence of a structure was noted on the 1947 USGS quadrangle, no testing was conducted in this region since it was not within the proposed impact area, and furthermore, it was close to the road and within or immediately adjacent to the fifty foot buffer zone. During the field survey inadvertent impact in this region of the property—estimated to be nearly 90 feet from the proposed clearing zone seemed an unlikely prospect. However, we concur that if protection should become necessary the site should be indicated. Please see MDS locations indicated in Figure 3 and 4 below.

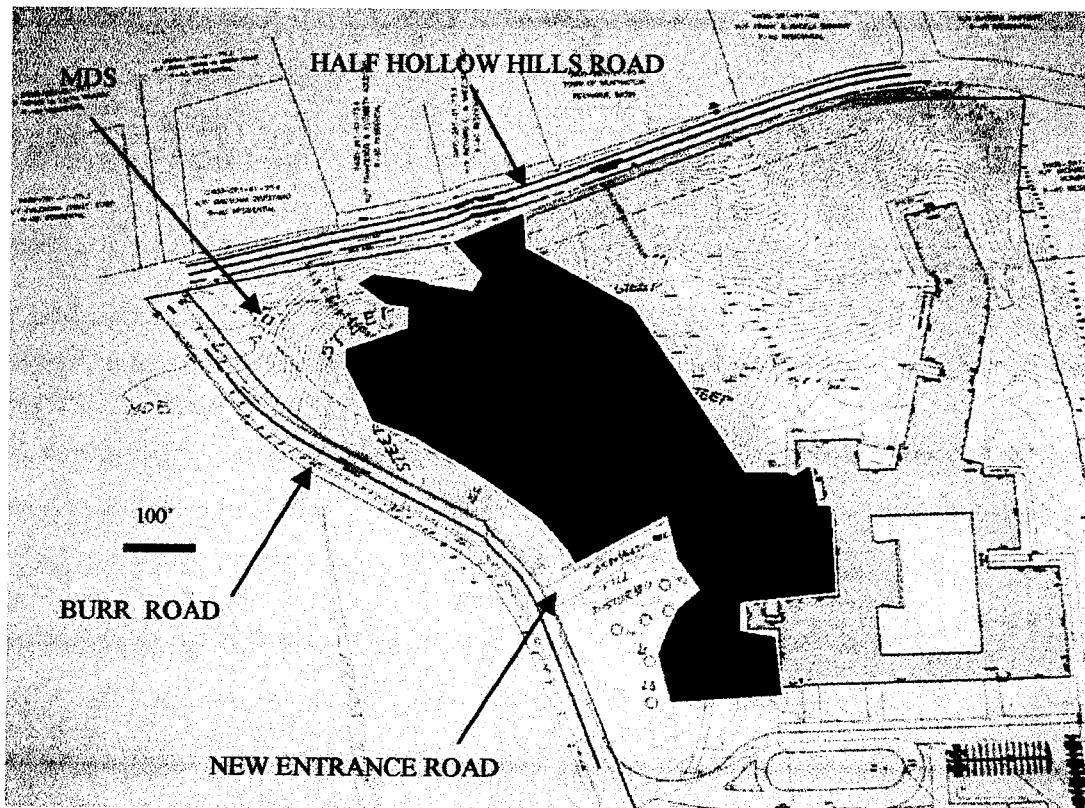


Figure 3. Approximately 4 acres of impact area is indicated in blue (Areas A and B of Stage IB CRA report). An additional area (Area C) is located in the southern section of the property. Also see relationship between MDS and proposed impact area. See below.

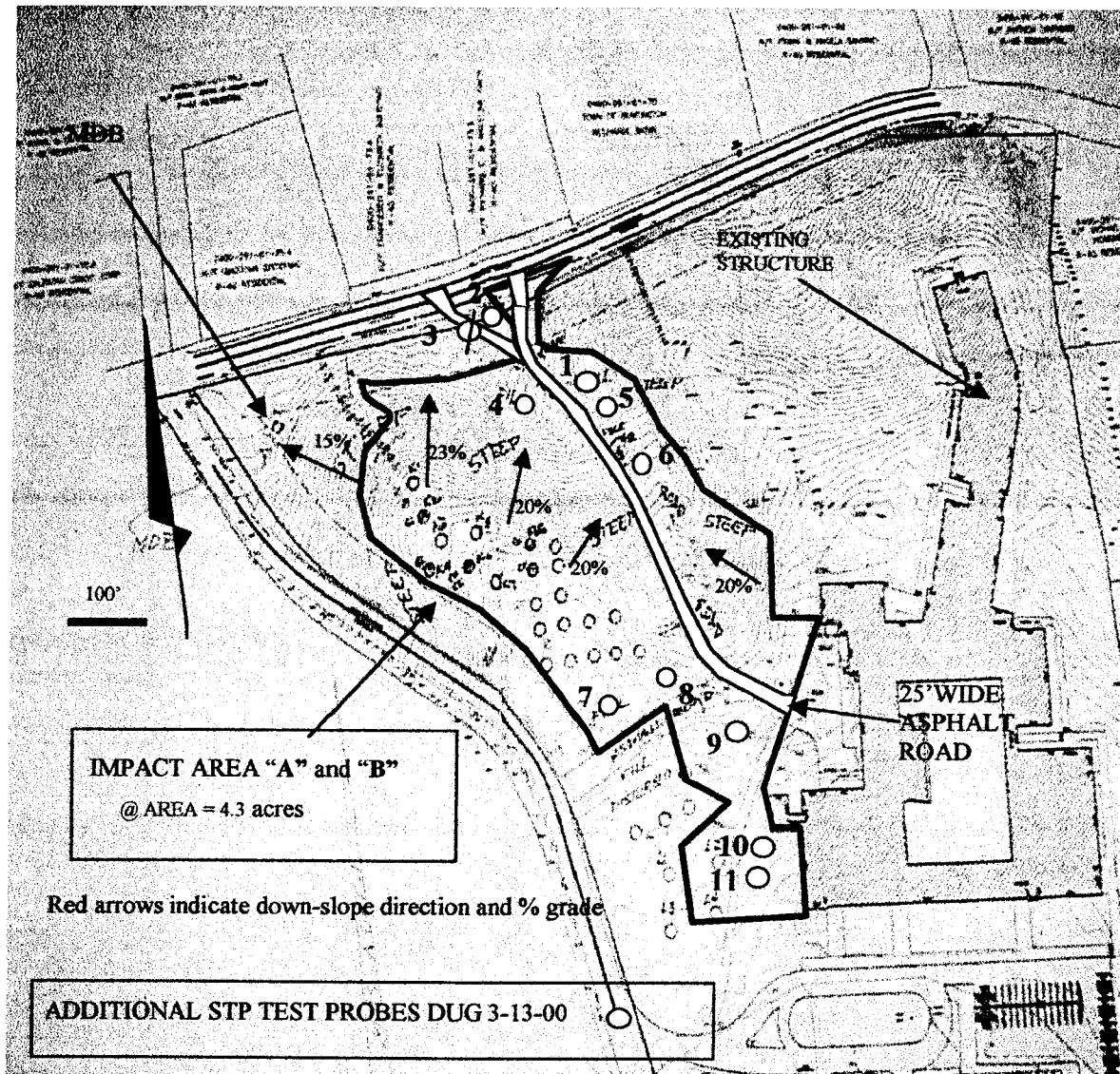


Figure 4. The proposed construction site at Half Hollow Hills Road and Burr Road at Five Towns College. Approximately 4 acres of impact area are outlined (Areas A and B of Stage IB CRA report. Additional shovel test probes are figured as numbered white circles (dug 3-13-00). Percent grade is noted in black letters with red arrows for slope direction. Base map is a section of the 6-24-96 Nelson and Pope plan of Five Towns College Expansion Site.

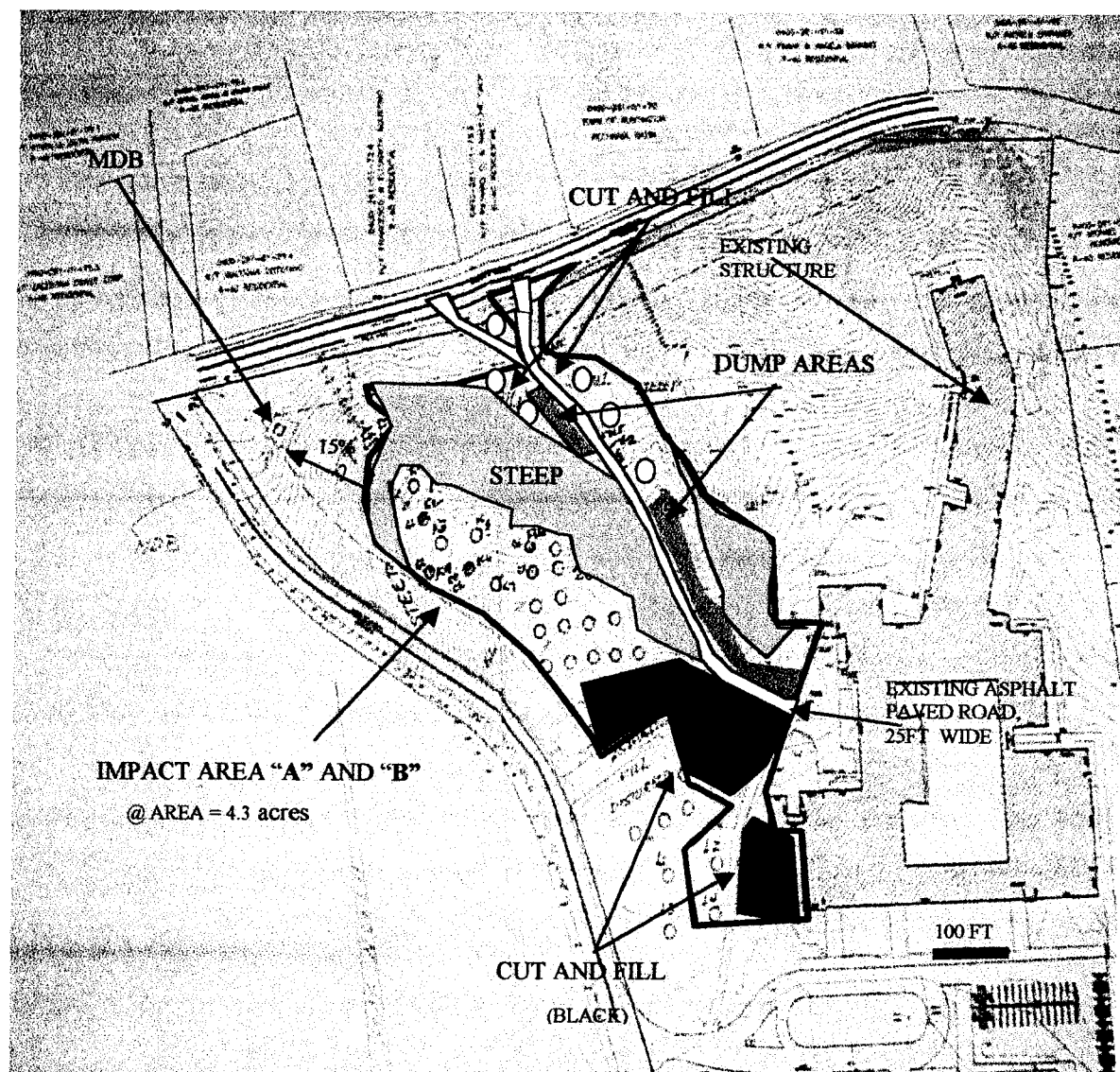


Figure 5. Map illustrating disturbance zones and areas of steep slope at Five Towns College proposed impact area. Areas are calculations based on map and field observations.

CALCULATION OF VARIOUS AREAS DESCRIBED IN IMPACT AREA

(Areas are estimates from N and P site plan and field measurements and observations.)

1. Impact area A and B = @ 4.3 acres
2. Steep Zone (> 15%) East = 1.4 acres
3. Steep Zone West = 0.4 acres
4. Asphalt Surfaced Road (25 feet wide) and cut and fill road margins (600' x 45') = 0.6 acres
5. Road Side Dumps covered by spoil > 3 feet thick over cut and fill (medium gray color on map) = 0.6 acres
6. Thick Cut and Fill (black) = @ 0.2 acres

TOTALS: Total steep, covered, cut and fill areas = @ 3.2 acres

Area of Natural Soil Cover = (4.3 acres - 3.2) = @1.1 acres

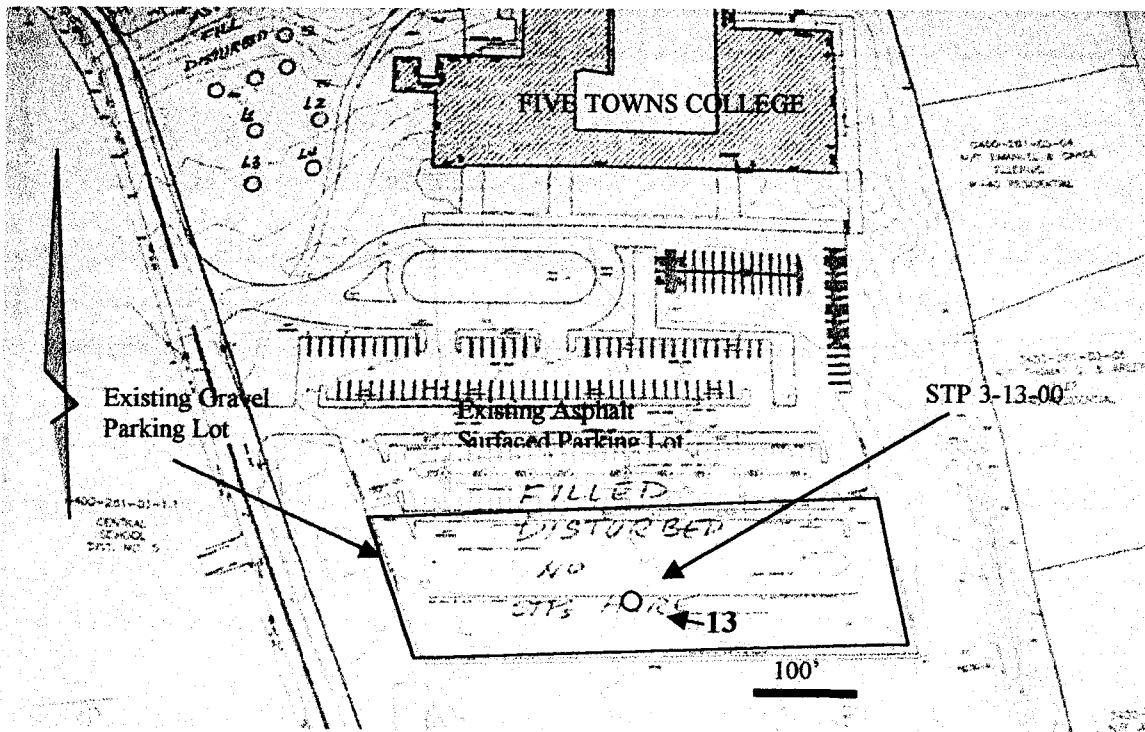


Figure 6. Nelson and Pope Map of southern section of Five Towns College property. Area enclosed by black line is a parking lot surfaced with gravel and crushed stone; it is planned for improvement. This is the only area in this part of the campus that is planned for alteration. The surface is mixed bluestone and gravel over subsurface of sterile gravel subsoil. The entire area was cut to three or more feet below original elevation, then graded and surfaced with a few inches of mixed gravel and blue stone. The location of a single shovel test in this region (STP 12) is indicated above. Magnetic north and scale are indicated.

3. **Regarding areas that were excluded from testing.** Subsurface testing was conducted where there was natural undisturbed soil to test. Three test areas were originally delineated during the initial study, A and B in the north and Area C in the south. We grouped areas A and B together in this reply since they represented the major impact area at the site and were located on one map segment. Area C is discussed separately. This information is included in the original Stage IA on page 8 of that report.

A. The North End (Area A and B)

The proposed construction area had been altered in the past as a result of construction of the Burr Lane School. Significant changes occurred to the topography when an asphalt surfaced roadway (@25 feet in width) was completed through this zone. A swath of cut and fill (@10' wide), occurs along its on both east and west. Portions of this are covered today by thick layers of dumped materials. It has altered an area (asphalt cover plus and cut and fill margins) calculated to be @ 0.6 acres. In addition, the roadway is presently closed to traffic and consequently, its sides have come into use by the College's lawn and construction staffs as a receptacle for dumping of all manner of materials. Included in these dumps, piled to 4 to 5 feet thick, are cellar dirt, soil sweepings, leaf and lawn clippings, tree roots, rotting timbers, branches and other materials. This dump zone covers an area nearly fifty feet wide and over 400 feet in length along the road margins (400 X 50) or nearly 0.5 acres. Furthermore, the proposed construction site has extensive areas of steep slope with percent grades (i.e. fall in elevation per 100 feet of linear distance) ranging from 15% to over 24 %. These steep areas constitute nearly 1.8 acres of the proposed construction area. In more recent years a new access road was cut through wooded land from Burr Lane on the west to the school service entrance. It is located on the west side of the College and is confluent with Burr Road. During its construction thick layers of subsoil, gravel and other materials were pushed on to the south and north sides of the road shoulder and into the proposed construction zone. This area of thick fill (several feet thick) constitutes nearly 0.2 acres on the both sides of the new entrance road. AS estimates that there is slightly more than three acres of steep, covered or cut and filled areas within the slightly more than four acres of the north-end (A and B) construction site.

B. The South End (Area C)

A gravel and blue stone surfaced temporary parking lot estimated to cover approximately 1.6 acres on the south of the College main building is planned for surfacing and improvements. This part of this application was not shovel tested for the original study because AS staff ascertained during the preliminary walk-over that the site was excavated well below natural grade (see site plan) before it was leveled. In fact, closer inspection of the site reveals that the entire south end of the parcel, including the grassy fields, are several feet below former natural grade. The entire south end had been excavated to remove soil and subsoil and then graded to level it. The soil was pushed off the site to the east, while some of it was used as fill in the north, and the remaining area further treated to prepare the space for parking lots. The lots were surfaced with asphalt. Additional area had been prepared for this purpose in recent years as the College population grew, by simply cutting the sod away by bulldozer and spreading crushed

stone and gravel. Due to these observations AS made no tests in this area during the original study. We ascertained we would have been testing sterile subsoil covered with a mix of sand and gravel. However, see below.

As a consequence of requests for further information we re-entered the property on 3-13-00 and dug additional tests in areas we had labeled as "fill" during the initial study rather than the more correct and appropriate "cut and fill". At that time we dug through the one to two inches of pressed blue stone (with difficulty) and gravel to expose the brownish to reddish-yellow gravel culturally sterile subsoil there. No significant cultural evidences were observed or uncovered as a result of these additional tests. See Test Data attached.

4. Regarding the documentation of soil levels. During the Stage IA "walk-over" phase of the survey, observations of the soil and soil stratigraphy were made. These observations were used in planning for the Stage IB survey. Subsequently, a computer print-out was prepared with the soil layers printed as we observed them during the initial IA field examination—as a convenience to field staff digging the IB tests. They had directions to alter the form, if it were necessary. They reported the soil as it appears in the form. The soil stratigraphy in all natural areas is as we have indicated. These natural zones—away from slopes—had a consistent soil profile with a prominent A2 zone and no Ap zone. However, in the future we will follow your suggestion in recording these data and measurements in the field.

5. Regarding the description of the ceramic shard recovered. The only ceramic that was recovered was indicated in very general terms. The piece was noted as "white ceramic". The material was actually a clear-glazed whiteware shard. It was possibly part of a coffee or tea cup.

6. Regarding the acreage of the project zone. The acreage in the proposed construction zone is noted above as 4.3 acres in the north area (A and B), while an area of approximately 1.6 acres is proposed for resurfacing on the south side of the College structure (C). The total proposed impact area estimated by AS is nearly 5.9 acres. With areas excluded on the basis of surface cover, steep slope, cut and fill zones, and covered zones AS estimates the area of testable natural soil to be slightly more than one acre.

7. Regarding delineation of Study Areas A, B and C. Please see Figures 4, 5 and 6 above.

8. Regarding site files used in the IA study. Though AS used and included the maps and documents supplied by our research agency—unfortunately, no direct mention was made in the report of the file-search company or the source of the information. In fact, a complete file search was conducted by **Hartgen Archaeological Associates**, 1744 Washington Avenue Extension, Rensselaer, New York. Hartgen Associates searched the New York State Museum and OPRHP files and reported on National Register eligible

structures and other significant records in the vicinity of Five Towns College as preparation for the IA study. Hartgen Associates is one of the several research organizations listed by NYSOPRHP for this service. AS encloses their work order in this submission.